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MIND

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A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

PROF. G. F. STOUT,

WITH THE CO-OPERATION OF PROFESSOR E. B. TITCHENER, AMERICAN EDITORIAL REPRESENTATIVE, AND OF PROFESSOR WARD, PROFESSOR PRINGLE-PATTISON, DAVID MORRISON, M.A., AND OTHER MEMBERS OF AN ADVISORY COMMITTEE.

CONTENTS.

	PAGE
I.—On the Nature of Memory-Knowledge: J. B. BAILLIE	249
II.—The Meaning of "The Universe" (II.): C. E. HOOPER	273
III.—What is a Person? (*The Cornerstone of Ethics*): W. M. THORBURN	291
IV.—Time as Succession: J. C. WORDSWORTH	317
V.—Is Bergson's Philosophy Monistic?: S. RADHAKRISHNAN	329
VI.—Discussions:	
The Argument *A Fortiori*: C. A. MERCIER	340
The Necessity of a Universal in Reasoning: H. S. SHELTON	351
VII.—Critical Notices:	
E. D. Fawcett: *The World as Imagination* (Series I.). F. C. S. SCHILLER	357
H. Rashdall: *Conscience and Christ*: G. GALLOWAY	361
H. Elliot: *Herbert Spencer*: H. W. CARR	366
VIII.—New Books	370
IX.—Philosophical Periodicals	373
X.—Notes and News:	
MIND ASSOCIATION	384

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NEW SERIES. No. 103.] [JULY, 1917.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—ON THE NATURE OF MEMORY-KNOWLEDGE.[1]

BY J. B. BAILLIE.

THE problem I wish to consider is the character of the contribution which memory makes to the series of judgments constituting human knowledge. For the purpose of the analysis we must presuppose the psychic development of the so-called memory-continuum, which is obviously a gradual and a complex product of psychic activity. We shall also regard as subordinate to our primary interest the various forms of our memory experience, recollection, reminiscence, remembrance and reverie, to name only the most familiar. Of still less importance from our point of view is the discussion of the question, in itself rather futile, whether the exercise of memory implies an innate or an acquired function of mental life. And we shall not deal with the psychic conditions of the memory process, retention, reproduction, persistence of images or ideas, and the like. Our problem is logical, not psychological, and starts from the assumption that the judgment 'I remember this or that' has a definite meaning and conveys a specific amount of knowledge, whatever be the psychic processes and conditions involved in the statement.

This judgment is specifically different from any other kind of knowledge, however closely allied to it certain other forms of knowledge, *e.g.* recognition, or again re-knowing, may be. The main point of difference is that in a memory-judgment

[1] This discussion does not claim to be an exhaustive treatment of a much neglected subject.

the object to which direct reference is made is always and solely the past. Every other judgment deals directly either with the present, the future, or, as in the case of abstract reasoning, has no time reference at all.[1]

The problem seems important on general grounds. It has been long held that the analysis of knowledge is concerned in the first instance, or even exclusively, with the judgments which refer to the world as it is about us in the living present and as it may be expected to be in the near or just remote future. So much has this view prevailed that some have taken judgments of perception to be prior both in time and logical importance to all other kinds and stages of knowledge. Emphasis on the present leads half unconsciously to over-emphasis on the knowledge which is peculiarly present knowledge,—*viz.* perception, and more particularly perception of the external world. This to some extent accounts for the place which discussion of the nature of external perception has occupied and still occupies in British philosophy. But it seems clear that unless this primary or exclusive emphasis on the judgments which concern the living present is the result of a reasoned theory, the assumption of their prior importance for knowledge can only be regarded as a prejudice or personal conviction. And when we observe that we are constantly referring to the larger and, as life proceeds, the ever-increasing domain of the past with as much relative assurance as we refer to our present situation, the acceptance of the judgments concerning the present as supplying our only starting point for the study of knowledge seems more than questionable. If, again, we admit that judgments concerning the past are at least *primâ facie* valid with those concerning the present, and are certainly distinct in form or kind from the latter—more especially if the judgments referring to the present are identified with external perception—then we are compelled to broaden the basis of our investigation into the nature of knowledge, and cannot accept any theory which regards judgments of external perception as the model still less as the standard of all true knowledge. It is of course obvious that a judgment regarding the past takes place in the present, as indeed do our judgments regarding the future. But a judgment in

[1] I take it for granted that the difference between a past object and a present object will be accepted as fundamental, and that knowledge in the present and knowledge about the present are also clearly distinguishable. Assuming these distinctions no one will confuse the analysis of an actual experience, *e.g.* a toothache, with the analysis of an experience known by memory, *e.g.* the toothache as located in the past.

the present is not necessarily a judgment of or referring to the present. If there is no distinction between these two statements then knowledge must always be an affair of the passing moment; and if this were true, there can be no escape from either solipsism or intellectual scepticism. That it cannot be true seems evident from the fact that we cannot even speak of a judgment in the present, much less of the present, without thereby distinguishing sharply between present and past, and thus giving some independent existence to the past and independent validity to judgments referring to the past. If this be granted, it is at least an assumption requiring special proof that judgments referring to the present have a more peculiar validity than those referring to the past. Such an assumption is certainly not made by common sense, which takes judgments regarding the past to be as much a basis of reasoning as judgments regarding the present; and the fallibility, which undoubtedly affects judgments regarding the past, can be equally found in the case of judgments regarding the present.

We start then from this position which common sense seems in point of fact to accept. Our questions regarding memory-judgments may be reduced to three. What is the specific nature of the object to which these judgments refer?: What is the character of these judgments?: and lastly we shall ask, What kind of value and certainty have these judgments?

We shall keep in view throughout the parallelism which seems to exist at many points, though certainly not at all points, between the judgments of memory and those of external perception. This amounts to no more than a common-sense admission that in some sense we may take the past to be as real as the present, and that a reference to our way or ways of knowing the present may by analogy assist us in an inquiry into our knowledge of the past.

The object of memory-judgments is summarily described as the past. But this is indefinite and requires analysis. We do not in memory know the mere flow of past time, but a specific point or part of the past. Past time as a whole, or the past as a whole, may, by contrast to memory-knowledge, be called an ideal construction, of which memory may supply some of the pieces but does not give the whole composition. It is the past of physics and cosmology. Nor do we pretend to know by memory the past which everyone understands and accepts in the same sense and with the same complex of events—the past of the historian or the evolutionist. This is built up without any reference to any specific individual's di-

rect experience; rather the aim of the historian is to get rid of the individual point of view as such, or only to make use of it as far as it corroborates or is corroborated by the experience and points of view of others. History in fact is to memory what a scientific statement is to a private opinion. The past to which memory refers is the individual's own past and nothing further: the past of history does not directly deal with that of any particular individual at all. But even the individual's own past is not in every sense the object of memory. Some of his past operates upon his life effectively but is unknown to memory. The residual influences of previous experience, the acquired habits of thought and action, the colour of previous feeling, and the complex texture of the previous events of his life, not to speak of the heritage of ancestry which links his individuality to a previous generation or generations,—all these are in a strict sense his past as an individual, but they are not the past he remembers. For they all have the characteristics of being at once indefinite in their operation, unconscious to his thought, and incapable of being identified by him as facts which he ascribes to himself or consciously places in some part of his previous experience. Only when he affirms what has been as his own, as being what it was because he made it so, does he form the judgment 'I remember this or that'. It is the past in this sense that we are concerned with when speaking of the object of memory.

It will be noted in passing that the reality or existence which we ascribe to the past of memory raises no difficulties which are not equally found when we speak of the reality of the past in any of the other senses. Whatever meaning the reality of the past of history or physics or cosmology may have, we must be equally justified in describing the past of memory as real: for the latter is only a particular kind of past. We do regard the events of history as real and not fictitious creations of the human mind. It is true that the lower strata of a geological formation were in existence before the upper strata: it is true that the Romans occupied Britain before the Normans appeared. And what is true implies a reference to reality. When we say the past is no longer real, all we mean is that the past is no longer present: and that is tautology. If we say the past was never real, because it no longer exists as it once was, we are either begging a serious question or perhaps talking nonsense. The reason why common sense regards the past as a reality is that reality is held to be continuous in its process, and all parts of that process are necessary to make reality what it

fully is. If this be denied there is no choice between illusion and solipsism,—if that be a choice at all. If change is not a character of the real, the word 'past' has literally no meaning. If change is real, then all the stages of change are states of reality whether they appear at one time or another, be past or present. What science and history do is to build up gradually by an effort of interpretation the connexion between the discrete parts or stages by which reality as a whole has gone through its process. That this interpretation refers to reality is never questioned and cannot be doubted without denying the fact of change. The same must apply to the past of memory. The changes through which the individual mind passes are as real as the individuality which passes through and holds together these changes. And it is the course or series of these changes which is referred to by the successive memory-judgments.

The general character of the object of memory is, then, individual experience as a process of changes which have occurred, to which we can consciously refer, and which we claim as peculiarly our own. The reality to which we ultimately refer in such judgments, the ultimate 'subject,' to use the familiar logical term, is our one individual experience, which is identical throughout the changes and which unites them all. Reality is everywhere individual, identity through diversity, whether the diversities appear simultaneously or successively. In our judgment of a present reality, its constituent elements are in general simultaneous; in memory-judgments the elements are always successive. The actual way in which these two factors (identity and change) of our individual experience are blended is that of continuity. This continuity of individual experience I take to be the essential nature of the specific object dealt with and referred to in memory-judgments. Every time I judge that this or that happened in my experience I am affirming the continuity of my individual experience, and point to certain parts of it which have made up its content. Behind continuity no doubt there lies the more ultimate fact of the activity of the individual life which has reacted on its environment and in so doing has built up its concrete reality. But with this point, which is rather metaphysical than logical, we are not here directly concerned. It is only after this activity has operated through a considerable variety of changes and has fused these changes together, that the continuity to which memory specifically refers is effectively secured and established.

The continuity in question is never abstract, but is filled

in with perfectly definite elements, each with a character of its own. Hence it is inaccurate to say that memory-judgments prove the fact of the continuity of the individual life, as if continuity were an abstract principle deducible from the acts of remembering. Memory-judgments are operations of the mind by which we express in the present our awareness of the continuity of our past with our present. In the same way it is equally inaccurate to say that memory assumes the fact of continuity of our experience. Memory-judgments no more assume the existence of their object than external perception assumes the existence of the world about us. The world about us, so far as perception goes, is just the object perceived: perception is one way in which the externally real becomes an object, *i.e.*, enters into the sphere of what we call our knowledge. Similarly continuity of our experience is primarily the object known in memory, and therefore is not postulated as being before it is known. What that continuity may be apart from memory, it is not for memory to consider, any more than it is the business of the acts of perception to decide what the world about us may be independent of our specific perception. In memory-judgments we become aware of the continuity of our individual experience; and this is almost a tautology; for being aware of our continuity is just what memory-judgments consist in.

We need not, however, maintain that only in memory-judgments do we become aware of our continuity. It seems certainly true that we do have to some degree—a degree varying from individual to individual and from time to time in the same individual—a kind of sense or feeling of our continuity, an indefinite and inarticulate mental state in which different factors co-operate and coalesce, and to which therefore we may assign the term 'feeling' of continuity. The more stable our individual mind, the more uniform its operations and responses to its environment, especially its emotional responses, the more likely are we to have a clear consciousness of this feeling of continuity. But while some might attach very great importance to this feeling in their consciousness of continuity, it does not conflict with but on the contrary may often support the memory-judgments. And in any case it does not take the place of memory, for its peculiar character lies just in being a general feeling[1] and not a judgment at all, which is articulate and definite in its reference to some part of our experience.[2]

While the object of memory, then, is the continuity of our

[1] Comparable to mere sensation in relation to judgments of perception.
[2] We shall refer to this again in the second stage of the analysis.

experience, memory-judgments always have a specific object as their content. This is selected by attention from the variety of content making up the continuity of our experience. This operation is closely analogous to what takes place in our perception of the external world. We do not perceive, say by sight, the whole region that is visible, but select a specific object in the *totum visible* and concentrate our attention on that: we perceive, in short, a visible object: the rest of the visible region lies round that with varying degrees of clearness and distinctness. We are aware there is no gap between what we do perceive and the remainder: but the reality of the visible world is focussed for the time being at a particular point, the object perceived. So in memory-judgments. We do not know by memory the whole continuity of our previous experience at once, but a particular part of it, which we, owing to our special interest in it for the time being, know as belonging to our experience. The fact that though thus selected, and therefore partially isolated, the object is still affirmed as part of our continuity often without our linking it to other adjacent objects in the series, shows how closely our continuity enters into the very life of our individuality. It might seem at first sight that to remember any bit of the past we should have to go through a succession of stages connecting the object remembered with what preceded and what followed. Sometimes we find we do this, but not always; and in principle it is not necessary, any more than it is necessary, in order to perceive an object in the external world, that we should perceive this object as being alongside many others. The conscious reference to other objects may be very indirect indeed, and hardly present to the mind. And indeed it would be paradoxical if it were always necessary to relate an object to other objects before the object perceived could actually be perceived; for then we should either have to do the same in the case of those other objects, and thus proceed *ad infinitum*, or else we should never perceive an object at all. We may be and often are so vividly aware of a particular object as not to perceive any other objects. They may be felt or sensed as being there; but that is not perception. So in the case of memory. The object remembered can be judged as having fallen within my experience without necessarily connecting it with a predecessor or successor. Indeed this is requisite in many operations of memory, when the quick recall of a specific object is for the time our sole interest in our past.[1]

[1] I admit that the implication of other objects in the continuity is a matter of degree: but the degree may vary from vague indefiniteness upwards.

And even when our interest in the past is not confined to a single selected object, but to a series of objects, as in the case of reverie where we dwell on the past for its own sake, our memory of these objects consists in a succession of discrete judgments, acts of remembering particular objects. Memory, in short, is not a blurred apprehension of the past, but an articulate judgment regarding its contents.

Such contents may be any aspect of psychic experience which has definitely engaged our activity for a time and so modified our individuality as a whole. Thus it is that we remember not only acts of will in the strict sense, but phases of feeling and emotion, and forms of knowledge. We remember that we paid our debts or failed to pay them, we can with the poetess "indulge in memory's rapturous pain," we can remember past apprehension or perception or judgments, we can even remember that we remembered, or again that we did not remember. Individuals differ from one another in the way and in the degree to which they can remember these different contents; some can remember past acts better than thoughts or feelings. But such variation is characteristic of all operations of consciousness, as we familiarly recognise in the "specialist's memory," or in describing one person as having a good verbal memory, another a memory for ideas, a third as having an auditory memory, a fourth a visual memory and so on.

While all these contents must belong to the past as continuous with our present it is not necessary that in all cases there should be a precise reference to a specific time. The past of course involves the element of time: but continuity with the present is the fundamental fact, not the continuity of a definite time series. This last is a highly abstract element with a uniform and invariable direction of its own. We partly build up the idea of this uninterrupted flow of time from our memory-judgments; the latter do not depend for their operation on the accurate reproduction of the abstractly uniform time series. All that we require for memory-judgments is that they should refer to the past as a continuity which runs into our present and is different from it.[1] Hence it is that we remember many things which we cannot place anywhere specifically in the time series, but which, we are sure, fell within our experience somewhere. Hence too we remember some facts accurately but not in their exact order, the order which they must have taken in the single time series. The

[1] It is interesting to note in confirmation of this point that each individual tends to have a memory series peculiar to himself: much indeed as each tends to estimate time in a way of his own.

time order is something over and above the content we remember. The remembrance in a certain order no doubt may help to give cogency and certainty to our judgment of each object remembered. But so far from this being regarded as a necessity for accurate memory of particular objects, we rather consider it a sign of a defective, or at least primitive, mind if an individual cannot be sure of a particular occurrence without going over the whole record of events which preceded, or if, when interrupted in the recital, he has to begin all over again. When we remember a verse of poetry, or a passage in a book, or a place we have seen, we do not generally, and certainly need not for accuracy, locate the object remembered at some specific time in our past life. Indeed for many objects remembered this may be altogether impossible, as *e.g.* when we have met the object remembered very often and it has thus become completely dissociated or detached from any specific time position. But we do locate the object in our past, as an object which has entered into our experience, and which we affirm to have some place in the continuity of our individual life. The time series of the past, then, is one thing, the content of the past is another: and the latter is the primary and ultimate object of memory, and is not in the first instance directly bound up with the former, so far at least as the precision of the object of memory-judgment is concerned.

There remains a last point of some importance. What distinguishes past from present, and where does the past to which memory refers begin? The operations of sense-perception form the primary region of the present, and with these are inseparably associated actual bodily movements of all kinds, whether of the body as a whole or of its various organs, and certain feelings characterised by novelty or freshness. The typical or standard judgment of the present, the judgment of external perception, combines these features. The sphere of free ideas or images is distinct from perception mainly through the absence in the former and the presence in the latter of organic movements. These free ideas and images may be of two kinds: those which are allied with incipient, unfamiliar, and arrested activity,—mainly bodily activity,—and those which are allied with consciously realised, or fulfilled activity which suggests no further movement of any kind. The former belong to what we call our future, the latter to what we call our past. Hence it is that all that belongs to our past invariably has the aspect of familiarity and of attainment, and is accepted without any attempt at alteration. Alteration pertains to the future, not the past. So

much is this the case that memory seems to reflect as in a still mirror an unchangeable realm of images or ideas. Whenever we seek to change what is presented to us, or see what is presented change before us, we know we are no longer in the region of memory pure and simple. Distinct from both perception and the free ideas allied with movement is the realm of concepts with which are allied no bodily movements of any kind: and hence we rightly regard these as not belonging in a real sense to the present, past or future of concrete experience, and as having no time qualification at all. Further than these distinctions which common sense uses to mark off the past from the present and both from the future, we do not require to go in our analysis here. We can, however, easily see how, even apart from abnormalities of experience, the border line between what we reproduce and what we imaginatively construct may in some cases be very fine, and how it is often very difficult in practice to determine whether we are actually remembering or merely imagining a part of our experience. These are often mixed up even in the case of people with good memories. But however this may take place, the general principle holds good and is admitted: for we never seek to alter what memory supplies, and we always try to alter when imagination constructs. As a rule the sense of familiarity, the consciousness that our activity has once been fulfilled in a certain direction, increases or decreases as attention is concentrated on the object before us, and this is generally sufficient to make us aware whether we are remembering or imagining.

We come now to the next stage of the analysis—What sort of judgment is a memory-judgment? Round this point there has been much controversy. We shall not discuss the different theories. All the different views which have been put forward in connexion with our knowledge of objects of the external world, have played their part in the discussion of the object of memory, mainly because perception has been taken as the type of all knowledge and memory interpreted on the same lines as perception.

The difficulty in deciding the character of the judgment of memory seems to be largely due to the apparent absence in the case of the object of memory of many or most of those features of the environing world which supply the material of thought and the usual model of what we call an object. We are accustomed constantly to supplement our own apprehension of the world of objects about us by intercourse with our fellows, and this both acts as a check on our own particular apprehension and helps to give the object the quality of de-

tachment from the individual. In other words, social intercourse creates what we call universal or common experience, and this carries with it the consequence that the object of such experience is independent of any given individual, and is thus in a sense universal likewise. Hence universality of experience and objectivity have been by some thinkers literally identified. But when we are dealing with memory-knowledge, our object is altogether dependent on or at least directly bound up with our individual mind. No one can remember for us, or in the long run deny the validity of another's memory. We may correct our own memory by the help of others; but in the last resort the truth of our memory-judgments is final for ourselves. To surrender it absolutely is to give up the fact of the conscious continuity of our own individual life: and this we never do nor can do without loss of conscious individuality altogether. It would be like giving up our own emotions or private opinions or feelings which constitute so large a part of our distinctive individual existence. The object of memory does not transcend individual experience, and yet it is none the less an object on that account. For it transcends our conscious present, and that of itself is perhaps enough to constitute an object. But when to this is added the characteristic that the object of memory remains the same and is found to be the same after repeated changes in our individual experience and successive variations in our history, then it seems indeed absurd to deny to the object of memory the quality of objective reality which all matters of fact possess. The neglect of this wider significance of the term object is a serious defect in certain well-known theories of knowledge. It is overlooked that the repetition by an individual of his own experience is even in principle not really different from the process of constituting an object by intercourse between several minds, on which the sole stress is laid by these theories. In certain forms of knowledge of the higher order, *e.g.* some of the higher developments of science, the objects dealt with are not arrived at or experienced through intercourse with other minds of equal ability, still less with other minds of average capacity, but are known only to the investigator himself. His assurance of the truth of his knowledge is obtained simply by repeating his own experiences, retracing his course of reasoning and the like. There is therefore nothing unique in the character of the object of memory, when we say that its object never transcends individual experience, for the same is true of many other objects that fall within experience—feelings, ideas, and even certain objects of science.

Admitting this we have to ask in what way the object in the memory-judgment is apprehended? The judgment seems to consist in the ascription to oneself in the present of a part of the content falling within the continuity which connects past and present in the individual life. The judgment takes effect in the present; it refers to the past; and the identity or unity which holds these different elements (present and past state) together is the continuity of the individual. We may put it otherwise by saying that the reality underlying the judgment is the individual mind as a single unity; the memory-judgment makes this unity explicit in a special way, *viz.*, by an act which unites a part of its continuity which belongs to the past with another part which is in the present. In this sense it is perhaps correct to describe the memory-judgment (as Mr. Bradley does) "as an enlargement by ideal content of reality beyond the present";[1] though when this is given apparently as an alternative to the statement that "memory is an ideal construction of the past by which present reality is qualified," there are both difficulties and even obscurities in such a proposition. These, however, we need not pause to consider.

We may also say that the part of my continuity which is past is predicated or affirmed of the self which is in the present. My present, for purposes of this judgment, is not a particular feeling or idea or act: but simply the concrete state of the self for the time being, which is both feeling, idea and act, and is more especially centred in the perceptual world, which as we saw peculiarly constitutes our present state. The two factors in the judgment, subject and predicate, are not external to one another here any more than they are in other forms of judgment. They are aspects or elements in the one ultimate reality involved, namely, our continuity as a single individual mind. In language therefore we might even say that our present belongs to our past quite as much as our past belongs to our present, since both fall within the same continuity of the individual life.

In this act of judgment we do not derive the past state from the present by analysis, for the past is an element of our reality just as much as the present, and, for the reasons already given, is essentially different from it in quality. If in knowledge we can properly distinguish what is given from what is known, we should be bound to say that the object of memory is given to us in the same general sense that any other object can be said to be given. The psychical processes which in time precede and always condition the protrusion

[1] *Essays on Truth and Reality*, p. 354.

before our present consciousness of an object which we identify with ourselves in the act of memory-judgment, lie outside of our immediate attention, are governed by special laws of their own, are beyond our choice or power to alter, and to them and their product we submit. These are all characteristics of what we describe as "given to knowledge" and not created by its purpose. We have the same situation in the case of an object which we know by way of the perceptive judgment: for here certain psychical or psychophysical processes pursue their course beyond the pale of our knowledge, and only after these are completed do we by an act of selective attention operate in the form of a judgment of perception. I presume it is because of these processes antecedent to our conscious act of judgment that we speak both in practice and in theory of objects, or again elements, being "given" to us before knowledge can perform its work. With the psychical processes and conditions underlying the object of memory—persistence, retentiveness, association and the like—we are not concerned in the memory-judgment; for this presupposes their operation, and supervenes as an act of knowledge after that operation is carried through. In memory-judgment we say simply, 'I remember that fact,' *i.e.*, I predicate as true of me now a state or an event which has fallen within the continuity constituting my individual life. The fact as a fact cannot—so we insist in practice—be altered by me now, and is not altered by my judgment of it as belonging to my whole experience; any more than we can alter an object of perception. We simply accept it once it is there before us, and build or rebuild it into the structure of our lives by affirming it to be part of ourselves.

Hence the distinction between some free ideas or images as remembered and as new. We have to make our account with all as they enter the field of consciousness, and if we cannot regard any as having belonged to us before, we proceed to put them into a setting of another kind. What starts into existence a given fact remembered depends in the first instance on what we are doing in the present, on the content of our present state of mind. Our interest in this may awaken and, because of the continuity of our past with our present, does awaken into life other parts of our individual life through, *e.g.*, the process which we call association. But this interest is not all powerful in the situation where memory-judgments are formed. In many cases it does no more than exercise a very slight control over the course memory takes; in other cases the object of memory

shoots into prominence without any apparent control by our present interest at all; in other cases, again, our interest in the present may be so all-absorbing as to shut off the direct reference to the past altogether; while in still other cases, *e.g.*, those of reverie, we may surrender ourselves to the past so completely as to lose all interest in or even any vivid sense of what is present and wake up later 'with a start,' as we often say, to discover we are in the present and not living in the past after all. It is a mistake in fact and in principle therefore to ascribe to the interest in the present the whole of what we may know by memory-judgments: and the richer and the longer our past experience, the less does this interest in the present dominate memory-judgment. Our past is as real for us and as much our own as our present, and can be in itself quite as interesting, sometimes, indeed, even more interesting.

The judgment of memory has, again, a peculiarity not found in many other forms of knowledge. While it is true to say that in every judgment whatsoever the self of the individual is implied, or, as it has been put, the 'I think' underlies all knowledge, this reference to the self is not put forward in every case of judgment. We do not say usually 'I know'—or 'I think—the grass is green'; we say simply 'The grass is green'; the subject is looked upon as articulating its own content, as if we, as minds, need not be present at all. Hence in such a judgment, which is typical of an immense range of knowledge, we come to treat the self as something that can be left out of account. And for many purposes we can rightly leave it out of account, since a factor that is present in all cases makes no difference between the various cases; the constant is not so interesting as the variable and it is the variable which concerns us in the progress of knowledge.[1]

But in the case of memory this reference to the self is never implicit but always consciously explicit. The predicate is asserted solely of the self and by the self which owns the past state. Our judgment is not 'that took place,' but 'I remember it taking place'. When we refer to the past without this explicit reference to ourself, our statement is not a

[1] This elimination of the self, which is thus a matter of mere practical convenience has been absurdly construed by certain philosophers as if it implied that the self is not in fact operative in knowledge at all, that knowledge goes on of itself like a wound-up mechanism of thought, its owner, the artificer, merely looking on as it turns out its products—an absurdity which amounts to maintaining that because a principle is present everywhere, it is for that very reason not present anywhere at all.

memory-judgment, but a judgment of history in the strict sense. For this reason memory-judgments presuppose, and indeed in a manner express consciousness of self. They are perhaps amongst our earliest realisations of self-consciousness. Psychologists are accustomed to ascribe self-consciousness to social experience almost exclusively: and doubtless this has much to do with its full development. But there has always seemed to me a *petitio principii* in the argument which explains self-consciousness solely by social intercourse, since social intercourse is only possible if there is first a self in some form which can enter into social relations with others. Memory-judgments make possible such a consciousness of self as precedes full social recognition, and seems an earlier stage in the development of full self-consciousness. It is because of this character that memory-judgments seem peculiarly confined to the higher human level of mind. Mr. Bradley has remarked that "the animal mind has neither past nor future," and regards memory as the dividing line between the animal and the human mind.[1] His statement is dogmatic but seems on the whole true, if we recognise that the supreme distinction between human and other mentality is to be found in consciousness of self, that all the peculiar characteristics of human experience—the pursuit of ideals and the construction of a social order responding to individual initiative—are traceable in the long run to this principle, and that memory is a specific way in which self-consciousness is realised and expressed.

We need not of course suppose that it is through memory-judgments that we create our self-identity—except in the wide sense that repeated operations of memory make more and more clear to us what our identity consists in or contains. Our self-identity is the basis of memory-judgments; these but make it explicit and express it in a specific way—by the act of judgment. But it is always myself that is remembered and by which, from another point of view, the memory-judgment is made, and for which alone it has significance. In this way memory has all the value for individual mind which we ascribe to feeling or emotion, in which some have sought to find the essence of the consciousness of individual self-hood. We do not, however, in fact depend solely on feeling for the consciousness of our distinctive individual existence; to have through memory a consciousness that certain states have been peculiarly our own gives quite as vivid a sense of individual existence as any feeling.

While it is true that memory-judgments cannot in the

[1] *Essays on Truth and Reality*, p. 356.

nature of the case arise till a highly complex process of mental development has taken place, it would be erroneous to suppose that the complexity of the process preceding their development implies a corresponding complexity in the acts of memory-judgment. The judgment is complex in the sense that it consists of distinct elements, one of which is the predicate which is attributed to the self of the present, and the other the subject, the self which consciously assigns to itself the state or event in the continuity of its past. But the image or idea which constitutes the predicate does not intervene between the subject and a kind of static past which is outside it. This does not hold true even of the idea which we predicate of external reality beyond the individual subject; for if so, reality would for ever remain unknown; it would be a thing in itself outside all knowledge. Still less can such a view hold of the reality dealt with in memory-judgments, for this reality is just the mind of the individual in its aspect of continuity. The idea or image predicated in the memory-judgment is precisely this aspect of continuity at a particular part of its entirety; for the idea has or is mental content and carries within it all that has entered into the activity of the self at the stage to which it refers. This idea does not arouse the feeling of pleasure or pain which was mine when the state first appeared, as if this pleasure or pain were something extra to its nature: it contains that feeling as part of its meaning. It does not again suggest the time at which the state appeared (when the element of time is involved in a memory-judgment), as if that time element were something added to the idea; the time element when involved is itself part of the meaning or content of the idea. And so of the other elements involved in the predicate of a memory-judgment.

The act which affirms 'I remember this or that' is ultimate for knowledge: its truth if derived could only be derived from a similar act involving exactly the same presuppositions. This of course does not necessarily imply the validity of every particular memory-judgment as it is made,[1] but merely that there is no way of knowing our individual past at all except by way of a memory-judgment, which, even if proved false, can only be proved so by another memory-judgment. There is nothing more remarkable in regarding memory-judgments as ultimate in this sense than in treating our judgments of the present as ultimate, *e.g.*, those of perception. These are often

[1] Otherwise a memory-judgment would be, like a mere psychic event, incapable of being described as true or false. When there is judgment in any form there is always liability to error.

mistaken, just as memory-judgments are at times in error. But in the long run we have no way of refuting the validity of a judgment of perception except by another judgment of perception. We cannot deduce the truth of a judgment of immediate perception from any other form of knowledge whatsoever, any more than we can derive the act of perceiving from any non-perceptual source of mentality. This seems beyond all dispute; it would be impossible to be aware of our present at all if this were untenable. But the past is qualitatively distinct from our present, though continuous with it as belonging to our one individual experience. If then we can take up the position that our knowledge of the present is direct and in the long run ultimate, there is nothing unique in affirming that our knowledge of the past is equally direct and ultimate. The view which maintains that our knowledge of the past must always be indirect seems due either to confusing our knowledge in the present with knowledge of the present, the latter being treated as primary; or to regarding our knowledge of a particular area of the past as derivable from our knowledge of the whole past, which is taken to be, and rightly taken to be, a construction of a very complex kind.[1] The former position need not be discussed after what has been said. The latter makes any construction of the whole past impossible; for we can only construct out of simpler elements, and these must be obtained directly. There is no source from which they can be secured except that of particular memory-judgments regarding particular areas or parts of our past.[2] When it is said therefore that an "immediate knowledge of the past is a miracle" (Bradley), or that "we can only know the past mediately through the present" (Hamilton), we must reply that the only miracle lies in the

[1] It may also be due to confusing an actual experience as we were consciously aware of it when it happened, *e.g.*, a toothache, with our present consciousness of it as a past event. Clearly a toothache as it is, is not a past event: and as a past event it is not an actual toothache. If to know the past event means to have the actual toothache there is no past at all, and therefore no knowledge of it as past is possible. The knowledge of it as past means *inter alia* that there is no actual toothache. The identification of these two objects makes the problem of memory-knowledge meaningless, and the doctrine that the present is immediately known and the past mediately, is a form of the theory of representative perception.

[2] That memory-judgments are not final in the sense of systematically complete may be admitted. Only the whole truth is final in this sense. This point will be considered later. They are merely final in the sense that they are an irreducible type of knowledge, which has its own peculiar conditions and makes its own peculiar contribution to the whole of knowledge.

long run in being able to remember at all, or that it would be a greater miracle to derive the past from a knowledge of the present than to know it directly.

It is no doubt true that beneath the discrete knowledge of past events which memory-judgments give, there lies a vague and diffused feeling of our continuity, which may even be psychically prior to the development of memory-judgment, and which certainly remains a factor in our mental life even after memory-judgments have arisen. But this does not make memory-judgments less direct or final as judgments. The relation indeed between this diffused feeling of continuity and the definiteness characteristic of the memory-judgment is closely analogous to that between the level of mere sensation and the act of perception. Perception is not different in degree of clearness or complication from sensation, it is different in kind, and involves a new and unique operation of the mind, that, namely, of selective synthesis; and only by this act can perception be regarded as a judgment conveying knowledge. Relatively to perception, mere sensation is not knowledge, but mere psychic existence. Similarly, in the case of memory: only through the specific judgment "I remember this or that" does the past become definitely known in the sense in which all knowledge implies articulate selection.

The various forms of memory-knowledge—expressed by the terms recollection, reverie, reminiscence, remembering—indicate that while our judgment of the past must in the long run be direct and final, memory-judgments can become interrelated. They can support and correct one another, form a body of knowledge about the past which may vary in range and connectedness in many ways and degrees of completeness; while again they can approach the past from different directions. In recollection, our judgment of the past refers to a specific event in its time order, and this implication of time sequence acts as a corrective and guide to the course taken by the judgments. In reverie, the mind is carried along in a sequence of memory-judgments in which one leads to another not in any logical order or even necessarily in their original temporal order, but merely as the mind might drift over the field of immediate perception at a given time and find each part interesting as it occurs. While the sequence in perception is determined by the juxtaposition of objects, it is determined in reverie by suggestion from point to point in the series of memories. In reminiscence, again, we have a connected temporal sequence of groups of events, each of which contains events

temporally associated, but as groups there is no continuous temporal connexion, and there is no rigorous control over the sequence of judgments by temporal continuity. In remembering there is not any necessary reference to time sequence at all. Facts and events are referred to the past, but the *tempo* of the events is not required or emphasised. Typical cases of this form of memory are found in the remembrance of a verse of poetry or an isolated fact of knowledge. Our hold over such parts of our experience is only to be secured by memory-judgments. In the more complicated cases, as, for example, in remembering a long poem, the memory-judgments in which each element is known are built into one another largely by the help of association on the one hand and a memory of the general structure of the whole piece remembered on the other. In this process undoubtedly judgment, of another kind than memory, and inference as well, have an important *rôle* to play.

We come to the last point—the value and certainty of memory-knowledge. That memory plays an important part in the composition and the progress of knowledge is evident. Even the simplest processes of scientific knowledge—those of observation—involve the operation of memory. The mere transference to paper of what is seen through a microscope is only possible if we remember during the second stage what we have seen in the first. The highly complicated processes of constructing an elaborate theory are only carried through by a constant appeal to memory. But memory never gives organised knowledge, and never has the security of inference. The only kind of connexion of which it admits is the external connexion of mere collocation or mere sequence of independent judgments. We can never give a reason why certain separately remembered facts are put side by side. We can at best only assign a cause—that the facts referred to in the memory-judgments must have been created by the activity of the individual and thus form part of its continuity. Whenever we seek to show that the content of a judgment is such that it is essentially connected with another either by implication or extension of its identical substance, we have inference in the strict sense, and the beginning of a system of knowledge. Thus if I say that I must have had a ticket for the railway journey because the ticket collector entered the carriage as usual and allowed me to proceed on my journey without remark, this is inference pure and simple, based on the inherent connexion between the stages of the system constituting a railway journey. But if I say I remember buying the ticket and remember giving it up, we

have a mere arrangement of memory-judgments. None of these in particular guarantees its own *necessary* truth, for necessity implies inherent relation to a system. The more numerous the memory-judgments which relate to a single arrangement of events, the more likely each is to be absolutely true; for this tends to give the series of judgments that close connexion characteristic of a rational system. Hence it is that when the memory-judgments are numerous we almost involuntarily commingle or even confuse memory-sequence with inference, so much so that we even invent a link in the chain which memory cannot restore, and come to imagine as having happened what is not really remembered. Commonly the greater the breaks between the memory-judgments, or the fewer the memory-judgments, the less likely are we to fall into this confusion. And we are the more sure that we are remembering simply when we are aware that the several judgments stand isolated from one another.

Thus the truth of a memory-judgment is always a particular truth and has all the limitations in value which such truth possesses. It is unsupported, and unverified, sometimes even unverifiable; if we care to say so, it is altogether contingent. And no increase in the number of adjacent parts of the continuity of the past remembered will alter this character or turn it into a truth of a higher order—the truth characteristic of a systematically connected whole. We increase the probability of its truth, we lessen the weakness of its contingency, by the number of adjacent parts of the continuity we can remember; but that is all. This is inherent in the situation. Our memory-judgments are formed for and by individual minds as such, and have no source or support, *quâ* memory, except from the individual mind. Hence it is that we are always ready, or at least the highly socialised mind is ready, to admit the frailty of memory-judgments; and experience too painfully justifies the modesty of the confession. In many cases the best support for a particular memory-judgment is only to be found in the negative and weak assistance to be derived from not remembering anything that contradicts the judgment made. When such contradiction does occur, as when we think we remember that we took the three o'clock train and also think we remember being at our destination at two o'clock, we refuse to accept either deliverance and refuse to rely in this case on our memory at all. But this does not disturb our mental security, any more than when we make a mistake regarding the realm of perception and call a camellia a rose.

The judgment of memory is none the less true because disconnected from other judgments. Its truth is in this respect similar to that of judgments of perception, each of which, as far as it is mere perception, stands by itself as a judgment of a particular matter of fact. From the point of view of perception, there is no reply possible to Hume's statement that we can find no inherent connexion between two perceived facts or events; "the impulse of one billiard ball is attended with motion in the second; this is the whole that appears to the outward senses". But we do not question our judgment of each fact by itself. There is thus nothing peculiar in the truth of a memory-judgment which might raise doubts about admitting that disconnected judgments can convey a truth. Only in the interests of a theory, *e.g.*, that the whole, or completely systematic truth, can alone be called truth at all, is it possible to raise objections to the view that a memory-judgment conveys a truth. But such a theory either ignores the plain deliverances of knowledge, or else it must be consistent with the admission that isolated judgments convey truth. If the latter, then memory will be admitted to have at least a certain degree of truth. This is all in fact that memory-judgments claim to have. But such truth as they individually possess cannot in the long run be set aside except in the interest of other memory-judgments. Their truth cannot be cancelled or revised by any mind or collection of minds except that of the individual who exercises the act of memory-judgment. For they only hold for him and are, *quâ* memory, of no final value to anyone else, though for him they are supremely important. It is useless therefore to try to degrade the truth of memory-judgment by pointing out that it is so much lower than inference, and that in fact it requires to be revised in order to enter the realm of truth at all. Memory-judgments do not claim to rival the coherence of inferential truth, and it is a mere irrelevance to criticise memory-judgments from that point of view. The mind is not convinced that its memory-judgments are not true because it cannot give a reason for their inherent relation to other judgments, like in kind or different in kind: any more than the mind is convinced that it does not see a stone because it cannot give a reason for seeing the stone to be where it is. It is equally useless to say that memory-judgments cannot as such convey truth of their own because they are often in error, and therefore must have a criterion for their truth beyond their own deliverance. It is true that memory-judgments are often in error, but the correction of the error

quâ memory, can only be made by another appeal to memory: and this is generally what is done and is found satisfactory. Indeed how otherwise could we admit that memory had been mistaken except by convincing the mind by an appeal, a further appeal, to memory? If this is meaningless, how are we to account for the fact that perception is often mistaken and yet we correct an erroneous perception by another perception, thus admitting that perception as such is the final criterion in its own sphere? By no amount of conceptual deduction or inference can we create or destroy or even verify a truth derived from perceptual judgment. Perception is a level of knowledge for which no other process of knowledge can be, or provide, a substitute. The formulæ for gravitation will never give us the sense of weight; the laws of light will never supply us with the perception of colour. Each type or level of knowledge is a unique function of the mind operating under its own conditions and carrying within its own order its own warranty for its truth. And this holds for memory as for every other type of knowledge. The intermittent fallibility of memory therefore is no proof of the general incapacity of memory to supply truth, and is not to be overcome by appealing to truth of another order of knowledge.

The truth of a memory-judgment is thus in the first instance an isolated truth, capable no doubt of entering into a larger body of truth, but certain and valid as it stands. Because of its isolated character it provides in general the material for completer knowledge of reality; for this larger knowledge comes by way of inference, and thus passes out of the range of memory and equally out of the domain of merely individual experience. But it is only in certain cases that this advance in the knowledge of the past can be made. It appears, for instance, when the facts to which our memory refers have a wider significance than our own individual experience requires or possesses; for the facts referred to are often facts which have entered into other people's experience as well, and thus our knowledge of these facts may become common knowledge. Our judgments therefore may be a contribution to a common stock, and are on that account liable to and capable of correction by others. This process of criticism and correction prepares the way for the wider knowledge of them which appears as universal judgment or inference. But many facts of the past can never be so supplemented and corrected by the knowledge which others possess. They remain peculiarly and always within a single individual's cognisance. Here the truth of a memory-judgment must be accepted as final till it is contradicted.

The individual may indeed not merely feel convinced of its truth but support his conviction by additional memory-judgments. But he can never by memory have the security of inference or systematic truth, for this at once carries him beyond memory to the region of universal experience.

This investigation leads to certain important conclusions. If the field of memory-judgments is that described, no theory of knowledge can be adequate which takes its start primarily or solely from our knowledge of the external world. It is equally inadmissible to regard, as Mr. Bradley and others do, the knowledge of the present as providing the final criterion for the truth which knowledge supplies. This view, which seems to lead directly to scepticism, rests partly on a confusion between knowledge in the present, where certainly all knowledge takes place, and knowledge of the present, which as certainly all knowledge is not; and partly it rests on the prejudice, which at least requires justification and has received none, that the present has greater importance for knowledge because it seems more important for life and practice.

Again, if we thus broaden the basis of knowledge to include the past as well as the present, it is impossible to accept a theory of thought, or knowledge in general, which asserts, almost as a self-evident axiom, that knowledge is an ideal extension through judgment and inference of an immediate which is focussed in the present, or more narrowly still, in present sensation.[1]

Apart from other objections to this logical theory, it ignores altogether the peculiar character of our knowledge of ourselves which we have through direct acquaintance with our past.

The admission of the independent validity of memory-judgments will react on our theory of knowledge in another direction. It will tend to emphasise the essentially anthropocentric character of all our knowledge. For memory-knowledge as such finds its primary value in the individual life which it subserves: there is no external world to which such knowledge refers. If this be true of parts of knowledge, may not all knowledge find its significance simply within the purposive processes of the human mind, which at the best is but one kind of individual reality in the totality of the real world with which it stands in relation? Instead therefore of saying, in the language of a familiar school of logicians, that the

[1] Bosanquet, *Logic*, i., p. 90. "Judgment is primarily the intellectual act which extends a given perception by attaching the content of an idea to the fact presented in the perception."

world is sustained by a continuous effort of the intellect, may it not rather be that our intellect is sustained in its activity by the world of real beings which the individual mind encounters, and, in its active relation with which, carries through the processes of the intellect as one special way of realising its own supreme purpose of self-maintenance when face to face with other beings?

It also follows that objectivity cannot be interpreted solely in terms of universal, *i.e.*, common experience. There is an object which is only found in individual experience, and is not the less real though confined to the region of individual experience. We may indeed say that even here its essential character is universality, since the repetition by the individual of an experience the same in kind is equivalent to universality within the sphere of his experience. But this is certainly not universality in the sense accepted by current theories of logic. The latter is always socially constituted: a truth is held to be true, an object is regarded as an object, because it holds for a plurality of minds concurrently and not for an individual mind exclusively.

But if objectivity is accepted in this wider sense, then the current view that the final guarantee of truth is systematic connexion must also be modified or abandoned. Such a test is inseparably bound up with the doctrine of the interrelation of finite minds in a social system, ultimately perhaps the system of human minds as a whole, or humanity as an organised whole of mentality. If we extend the meaning of objectivity in the way described we must give a distinctive and independent place in the economy of knowledge to uniqueness of individual judgment as a mode in which truth is apprehended. Generalised, this implies the acceptance of intuition, in some sense, as an avenue to truth equally with, and yet independent of, reflective systematic connectedness or inference.

Finally, if we assign an independent place to intuition in the sphere of human experience, we cannot literally dissolve the individuality of the mind into a larger comprehensive universal mind, and regard the latter as 'taking up' or even fulfilling the whole purpose and nature of the former. The individual with his intuitions, as likewise with his emotions and even opinions, is an irreducible centre of mentality, with a reality and claims uniquely his own, whatever contribution he may make to the stock of common mental life which he shares with others. Whether the individual mind is to be assigned a larger or a subordinate or an equal reality with the universal mind is a problem which only a metaphysical inquiry can attempt to answer.

II.—THE MEANING OF "THE UNIVERSE" (2).

By Charles E. Hooper.

Without attempting a full résumé of the first part of this paper, which appeared in the April number of Mind, I may recall that it defined "the Universe" as meaning "the totality of real thought-objects considered under four related aspects"; these being (1) Space, in the geographical-astronomical, not the abstractly geometrical sense, (2) Time, in the historical-chronological sense, (3) Natural Characters, and (4) Natural Causation. The gist of the paper went to show the real particularity of Space, Time, and Causation; and hence, that the whole system of things and modes as classifiable is not the universe, but forms only one aspect of the universe, related to "the mind's prerogative of ideally taking the All to pieces, and counting the bits of the great puzzle side by side with the puzzle which has somehow put itself together". In so far as we can observe, record, and scientifically imagine the genetic and other actual relations, at particular times and places, of things and events, we are face to face with the going puzzle; though we necessarily sample it from the piecings together of subjective ideas which rational discourse affords.

It is with the pieces, or finite distinguishable contents, of the universe, in so far as they bear on our conception of the universe itself, that the following pages are concerned.

9. The Constituents of the Universe.

(*a*) *Contents which are not Constituents.*

In Clause 3 of the Definition (Section 2) the classifiable contents of the universe were provisionally enumerated as consisting in eight kinds: entities, materials, events, processes, features, qualities, magnitudes, and actual relations. This classification is intended to be exhaustive, but is very likely capable of improvement. All these categories except the two first are abstract modes of being which imply a con-

crete context. While all of them may be called contents of the universe (under the Natural Characters aspect) it is only entities which form true constituents of the universe (under the Space, Time, and Causal aspects). Materials themselves, or as such, are not constituents of reality; but only those "portions" of materials which appear as entities in given places at given times.

Before considering the fuller meaning of "entity," I will briefly allude to each of the other categories, taking the above list backwards. The meaning of actual relations was referred to in a footnote to Section 2. Qualities have been touched on in Section 7 as "predicable aspects," and contrasted with those actual relations of which we have visible evidence (as in seeing a person peeling an orange). Magnitudes and their ideal relations are the subject of mathematical definition; but, from the side of philosophy, it may be remarked that a magnitude can mean nothing real unless it pertains to some qualitative category; being, either, a certain number of natural units—entities or events—collectively regarded, or the measure, in conventional units, of some natural mode, as, for instance, some dimension or the volume or mass of an entity, the velocity or momentum of an entity in motion, the rate at which an entity grows, the degree of some physical condition (heat measured by the thermometer) or of some psychical quality (sense of heat experienced), or the measure of some actual relation, as lapse of time, distance in space, degree of attractive force, proportional variation of co-subsistent qualities.

(*b*) *Features distinguished from Parts and Qualities.*

Features are included in the above enumeration as meaning certain belongings, which seem to stand midway between physical parts and qualities proper. A physical part is in my view a subsidiary sort of entity; since it may become detached from the whole to which it belongs (as a branch from a tree) and will then possess an at least mechanical individuality of its own. A feature cannot, any more than a quality, be thus detached; but it is specially connected with some physical parts of a thing rather than with the whole thing. True features of the human body are such as the arm-pit or the facial angles between nose, cheek, and forehead, which latter are themselves called features, but are properly parts. A room is a feature rather than a part of the architectural structure called a house, and a tunnel a feature rather than a part of the ground through which it runs;

while marks and figures drawn upon solid surfaces by scratching or indentation are features in a similar sense. I should also say that a figure—for instance, an equilateral triangle—made by pen and ink or lead pencil on paper becomes a feature of the sheet, rather than a part of it, or an entity. The superimposed traces of material are no doubt entities, and so is the sheet itself an entity; but the fact of the sheet supporting the triangle, which could not hang together on its own account and yet does not belong to the texture of the paper, makes it a feature rather than a part. The same would of course apply to all written and printed matter and to all pictures and printed designs, when viewed in relation to the paper, canvas, or other fabric on which they appear. In many of these cases "features" have a high symbolic or aesthetic value which does not belong to the entities of which they are features. Finally it should be noted that the geometrical characters of real bodies, such as the perimeter of an individual body, any distinguishable surface or line between surfaces, and any point, ridge, corner, or other sort of solid angle, must rank as features and not as parts.

A complete perimeter, or the common termination of all the relatively external parts of a body, is the feature which confers mechanical singularity on the thing possessing it. In the case of rigid bodies the perimeter is some solid figure, no matter how irregular; but the perimeter of a flexible body, such as a rope or flag, may assume an infinite variety of figures, while the body's structure remains unaltered.

(c) *Process and Event.*

Next we come to the kinetic modes of reality, processes and events. As, in Space, an individual entity is something composed of materials and surrounded by other material things, but integral in itself, so, in Time, an event is something made up of processes and connected with antecedent and subsequent processes, but relatively complete in itself. Both individual entities and events have a sort of "form" which differentiates them from mere materials and mere processes respectively. *Any* motion or change objectively considered may be called a process. An event is a species of process whose differentia lies in the fact that it has a definite beginning and ending. By definite I do not mean necessarily abrupt. We may count the passing of day as an event lying between the exact moments of sunrise and sunset, or as one covering the waxing and waning periods of morning and evening twilight, which can only be vaguely defined:

but in any case the day does begin and does end. A simple illustration of an event is a single swing of a clock's pendulum from left to right. The pendulum's movement through any minor part of the arc traversed is process, not an event, and the continuity of its rhythmic motion to and fro is also process. If, however, we consider the fact of the clock having "gone," from a certain moment when the pendulum was started to another moment when it stopped, this was not merely an instance of process, but a prolonged sort of event.

(*d*) *Materials.*

Let us now turn to the meaning of materials; observing, in the first place, that no material is an entity or single thing, unless we count the ether as a material. This has actual continuity in Space and Time, and is thus internally one, though its outer limits, if there be any, transcend knowledge as do those of the universe itself. It is for the physicist, not the philosopher, to determine whether ether *is* a material, and also to prove or disprove the hypothesis that ponderable matter has somehow been built up out of ether. I would, however, point out that, if this hypothesis be correct, the modified ether which has become ponderable matter is none the less different in nature from the unmodified ether which remains ethereal. It is this ethereal ether which may possibly rank as one material and is also one entity. On the other hand, any one of the known chemical or physico-chemical materials is not a single entity. It is a class whose individual instances are "samples" instead of "specimens," being masses or traces, often called "portions," of the given material, which are of all shapes and dimensions, and are distributed irregularly throughout the universe. Thus water is not any one thing which can possibly act as a whole. The term connotes a certain physico-chemical composition, and should be understood to denote all things which have that composition; ocean, seas, rivers, ponds, rain-drops, the contents of vessels from which we drink or in which we wash, the watery parts of the fluids contained in living plants and animals. H_2O, which does not connote the liquid character of water, must of course denote a still greater variety of instances; those of ice, snow, vapour, and invisible steam, as well as those of water as such.

Materials, like entities, may be classified in species falling under genera, and the most specific sorts of material agree with species of plants and animals in that they cover a multitude of instances; only, in the case of a purely material

species, the instances have no characteristic external form, such as belongs to a species of organism.

(*e*) *Entities.*[1]

It now remains to describe more explicitly the nature of entities, as the true constituents of the universe; the things which have qualities of their own, enter into actual relations, and in or through which all processes and events take place. The ether is, as above indicated, an entity. Although it may be infinite in extent, it is limited internally by whatever may rank as ultimate particles of ponderable matter, and it has certain actual relations to these particles, little as we know of their precise character. The remaining constituents of the universe, or the strictly finite entities, are either molar bodies (including parts and systems of individual molar bodies) or molecules and ultra-molecular particles of which molar bodies are built up. These latter are now generally supposed to exist in three degrees of minuteness; molecules being systems of atoms, and atoms systems of electrons. How far and in what sense these several elements can properly rank as entities is again a question for the physicist, not for the philosopher, to decide. There are, however, some modern theorists who, in common with the ancient atomists, seem to assume that our most certain knowledge of matter relates to these, its intangible and invisible particles. They not only treat atoms (or electrons) as relatively explaining concrete things, but rather as *explaining them away;* making them mere transient phenomena, which are not at all what they appear to our senses, though the atom or electron is apparently exactly what appears to our minds! The fact of course is that by far the greater and most certain part of our knowledge of matter relates to molar bodies; mostly of visible, if not of tangible, dimensions; and, if we did not familiarly know many of these bodies in their actual relations, we should have no means of even imagining their atomic elements. While concrete things may be made up of atoms, the universe is made up not of atoms, as such, but of concrete things, as such. There is needed a certain qualification to this statement if it be assumed that certain detached non-molar units may be

[1] I am of course aware that some thinkers prefer to use this term in a much more abstract sense; namely, as applicable to anything which I should call a real thought-object, or content of the universe; but the term appears to me to be more serviceable in the sense indicated here.

travelling in space or ether beyond the earth's atmosphere and occasionally colliding or otherwise interacting. As to that I have no right to express an opinion, but, barring this hypothetical case, molecules do not act except in molar groups, and the true constituents of the universe are individual things (of which collective systems may be formed), masses, or volumes, each of which has some form of its own, no matter how irregular, indefinite, or fluctuating, and no matter how soon *it* may cease to exist, through what amounts to a complete metamorphosis of structure or a disintegration of most of its elements. Apart from ethereal medium and chemical or ultra-chemical particles the known universe is made up of the celestial bodies, nebulae and meteoric fragments, masses which form parts of the earth's crust or central regions, ocean, lakes, rivers and atmosphere, and definitely formed terrestrial bodies such as crystals, micro-organisms, plants, animals, men and the manifold products of human art and labour. In all these cases there are localised portions of either one or several varieties of physico-chemical material which have acquired some outward form and possibly some internal (other than molecular) structure: and, while the matter is of course a necessary factor, the form and structure are the more characteristic factors of any entity which is not a mere sample of material. The matter may be, not a solid portion, as in a pebble or crystal, but fluid portions undergoing constant transference, as in a river, in a wave of the sea, in a flame, or, less rapidly, in the body of a living organism.

(*f*) *Molar Entities Classified with Respect to Individuality.*

The classification of molar entities under such categories as celestial and terrestrial, solid, liquid, and gaseous, crystalline and organic, vegetable and animal, human and artificial, gives rise to special and recognised branches of science, such as astronomy, geography and geology, molar physics, mineralogy, botany, zoology, anthropology and technology. There are, however, certain other classes of molar entities which pertain rather to the logic of physical science as a whole than to any one or two departments. These appear to me to be six in number, as follows:—

(1) Entities which are properly *individual*, like a single planet, crystal, plant, animal, separated seed of a plant, bird's egg when laid, or detached house.

(2) Entities each of which is a *naturally differentiated part*,

such as a mountain, a continuous stratum of the earth's crust, any limb, organ, connected tissue or cell of a plant or animal, any plant or animal embryo, one wall of a house.[1]

(3) Entities which are *super-individual* and form systems such as the solar system, a flock of animals, a body of soldiers, a town (counting both houses and inhabitants), a nation or other partially localised and psychologically-united human group.[2]

(4) *Fragmentary* entities, like pieces of rock and pebbles, fallen leaves or branches of a tree, amputated limbs, fragments of pottery or torn clothing.

(5) Entities which are *amorphous*, being portions of mere material, fluid, or, if solid, approaching to the pulverised condition, as a segregation of fragments, having only some accidental form, like that conferred on a certain mass of coal by virtue of its being heaped in the corner of a cellar. Fluid bodies, in general, as being wholly or partially contained by solid bodies, or attached by gravitational or other force to solid bodies, come under this category.

(6) Entities which consist in *conventionally differentiated parts* of natural objects. These are parts of the internal substance of a body which may be more or less definitely located in mathematical imagination, though there is nothing in the structure of the body itself to differentiate them from other parts. Thus they have no degree of individuality, but it can hardly be said that they have no sort of entity. They are *there* all the time, and that they were there is practically proved when a plank is got out of a tree trunk, a slate out of a slate-quarry, or a glass of water out of the larger volume

[1] There are many sorts and degrees of part-differentiation. Thus, while an embryo may be a potentially perfect individual and while the place of potential separation between articulated limbs is clearly indicated, there is no similar indication to mark off a mountain from the underlying and surrounding parts of the earth, which may be much above sea-level. We may imagine the mountain's base as starting from the lowest level of some adjacent valley, but then it will have to be a slanting and variously curved base to meet higher levels on the same or other sides. A mountain does, however, agree with a limb in being a protruberant mass.

[2] Mere collocations or local collections of entities on the earth's surface are not in themselves entities, and do not merit to be called super-individual. Super-individuality involves some definite interaction or co-operative action on the part of the members of a system. Collocations themselves may be heterogeneous groups such as are given in any ordinary field of vision, or naturally segregated groups, like a wood. The last can hardly be called super-individual. If the trees composing it have any common action, that is of very minor importance, only tending to certain atmospheric and climatic effects.

held in a jug. The mathematical imagination, which locates parts not naturally differentiated, often does so with reference to natural features, as when we think of some part of a crystal adjacent to one of the facets, or of the lower half of a walking-stick.

Now it is evident that part-entities (classes 2 and 6) are contained belongings of some of the other classes, and this leaves us with four types; namely, individual, super-individual, fragmentary, and amorphous entities. An entity belonging to any one of these four types may be called *integral*, in the sense that it is either a teleological whole, whose parts or members co-operate towards a common end (in which case it need not be a mechanical unit) or a mechanical whole whose particles are held together, while they form a body distinct and separable from surrounding and supporting bodies. Fragments and amorphous bodies are mechanical, though quite the reverse of teleological, wholes.

It is clear that fragmentary entities can be accounted for as due to some disintegration of properly individual entities, though they may themselves be highly individualised in form, as are most plucked flowers and fruits. Fragments pass into the category of amorphous entities when they themselves disintegrate into particles which retain no structural features indicative of the type of body from which they came.

Now the cosmic fact which chiefly interests us, and which brings an intelligible or at least imaginable order into what might otherwise appear as a chaos of chemicals is the evolution of individual and super-individual entities.

Super-individuality is cosmologically illustrated in the solar system; biologically, in the animal family and herd or other gregarious group; sociologically, in the tribe, nation, federation of nations, and in all political, industrial, religious and cultural groups of human beings. It is a factor of supreme importance to the human microcosm. As, however, we are now discussing entities from the objective point of view, and as those which are super-individual are always fundamentally composed of individuals, it is of the character and types of individuality that something more must be said.

That which primarily differentiates any individual from any amorphous or fragmentary entity is that the individual possesses some complete and characteristic external form, with or without a characteristic internal structure of its own. The form in question is not necessarily a particular figure; it is simply a particular intact perimeter. It is only in the case of a rigid individual body that this perimeter is an instance of some particular geometrical solid. In the case of

a flexible body it may assume many different configurations or attitudes, but can generally be restored to some characteristic figure, as that of a flag which is fully displayed or that of a soldier standing at attention. In the further case of a growing organism (which may be subject to such great changes, internal and external, as take place when, for instance, the individual insect passes through the successive stages of egg, lava, pupa, and imago) there is a characteristic succession of figures, the earlier of which can never be resumed by the same individual.

That which, in the second place, differentiates the individual from the fragmentary or amorphous entity is that its modes of action (or, if an artificial object, its usable qualities) are conditioned by its characteristic form or structure rather than by the particular physico-chemical composition which it also possesses. The irregular forms of fragments and amorphous bodies do of course determine some of their mechanical relations, but do not determine them on any uniform and characteristic lines. It is otherwise with most properly individual entities, whether artificial or natural. A billiard ball, propelled over a level surface, rolls in a straight line, and it does this, not because it is made of ivory, but because it is accurately shaped as a sphere. Balls of a hundred different substances would roll just as well. Then, turning to the organic sphere, although the specific chemical composition of protoplasm is indeed essential to the living individual, that composition is common to worm and man; so that whatever constitutes the superiority of the more highly developed types of life depends upon form and structure rather than upon mere matter.

Taking the mode of production of individuality and the relation of such mode to human agency as a guide to its general significance, we may note that there are, broadly speaking, three known ways in which individual entities are produced: (*a*) through some sort of natural evolution, unassisted by human intelligence; (*b*) through natural (chiefly) organic evolution, modified by human forethought, selection, and care, and (*c*) through human processes of manufacture.

The last mode of production, though of course fundamentally conditioned by natural law, is at the same time the most patently and potently conditioned by human intelligence. Ships, buildings, machines, and the great majority of manufactured articles, are given by man certain preconceived specific forms and structures, serving specific purposes.

Under the intermediate mode of production (*b*) we must class the reproduction of the human species itself in civilised communities, and especially where eugenic ideals have influence; also the breeding of animals and cultivation of plants which are humanly valued. In the former case individuals are recognised as potential personalities and generally treated (or so Kant would treat them, though his modern countrymen appear to be of a different mind) as ends in themselves. In the latter cases multitudes of individuals are in fact produced, but (except in rare cases, like that of the racehorse) the individual is not regarded. It is treated as a mere means to ulterior means; namely, to fragmentary and amorphous products (meat, flour, wool, flax, etc.) which finally serve us for food, clothing, and in other ways.

In primordial nature (*a*) there appear to be three types of (molar) individuality; detached crystals, organisms, and celestial bodies which are or may become worlds.

The assumption of rigid geometrical forms by crystals is a fact of much interest which awaits adequate explanation, but does not at present appear to confer on the crystal any practical advantage or efficiency which may not be shared by an amorphous lump of like material. On the other hand, the simplest individual organism is endowed with those tendencies to self-movement, assimilation of nutriment with rejection of injurious or useless matter, and reproduction of its species, out of which arise the immense variety of structures and functions of plant and animal life.

There cannot be anything more individual than an individual organism, however simple in type; but there are all degrees of complexity and co-ordination of structure and function, increasing as we ascend in scientific imagination any well-marked branch of the biological tree. These added characters are correlative to an increasing variety of contingently causal relations between the individual and the entities forming its environment; a variety which gives increased value and meaning to individuality. This intensive potential relatedness of course reaches its highest known development in human beings, though, in their case, it is indissolubly connected with the influences of cultural ideas and knowledge.

According to the definition given above, individuality, as a category, seems to stand midway between singularity and idiosyncrasy, both of which are liable to be confused with it. Singularity may belong to an amorphous or fragmentary entity, to a part or collective group, to an event or actual quality or relation; in fact, to any singular instance of any universal type. On the other hand, idiosyncrasy, or indivi-

dual variation from type, belongs to certain individual and super-individual entities (and, in some sense, to certain complex events), but there are many individuals to which it does not belong. Consider the individualities of two newly-minted coins of the self-same value and issue. Each has its own matter and its own form, and these are absolutely distinct from the matter and form of the other; yet coins belong to a large genus of artificial entities, the individuals in each lowest species of which are moulded or otherwise manufactured on purpose to serve as exact counterparts of one another. They *are* practical counterparts, though there are no doubt atomic differences between their respective masses. The ordinary idea of an atom of some elementary material is of a minute body having a still more absolutely exact resemblance to its fellow atoms. Among entities which are at once molar and non-artificial, some, like rain-drops, may be also practically counterparts of one another, but the vast majority have appreciable variations; no two instances of the lowest recognised species are, when closely examined, found to be exactly alike. No two pebbles on a beach, no two magnified grains of sand, are so. Minute differences may be found between any two leaves of the same tree, and those between such complex objects as two full-grown trees of the same species must be always considerable. The physiognomical differences between human individuals of the same race, sex, and age are always noticeable—Comedies of Errors do not run to any serious lengths on the stage of life. Individual differences in intellectual, moral, and aesthetic psychology are still greater, and so, under present conditions, are those in fortune (wealth, education, etc.) which of course affect psychological characters. The differences between nations and their polities are in some respects more marked and in other respects less marked than those between individuals, but the total uniqueness of each nation is great and must of course be allowed for in any future attempt to combine national units in an organised body of Humanity. It is these idiosyncrasies added to individualities (or super-individualities) which make of nature something quite different from natural law.

In so far as any of the above or other entities vary, either for good or bad or in ways which are neither good nor bad, from the average type of the lowest species to which they belong, it is clear that the incidence of the same natural laws in different cases will give different results. Hence, whatever the validity of natural laws may be, actual evolution and dissolution are not processes which can be wholly

subsumed under law as such. Law can never be anything more than a relative explanation of concrete fact, in which every single entity plays its peculiar part. Entities are the only causes of which we have positive knowledge; for modes of energy such as heat and light, when affecting changes in entities, always proceed from other entities, and are propagated through ether, which is itself an entity, whether integral or infinite.

(*g*) *The Individuality of the Earth.*

Whatever the ultimate sources of life may be, certain conditions of inanimate terrestrial nature were clearly necessary to the evolution of life on our globe. It would, however, be more accurate to say that the globe itself, at a certain stage of *its* evolution, was the great conditioning thing which rendered possible the appearance, multiplication, competition, and progressive adaptations of individual organisms and tribes of organisms. Of worlds we may imagine many, but only one—only mother earth, with her ever-varying conditions of atmosphere and ocean, her unique springs and rivers, mountains and plains, her countries symbolised by the map and manifold local features familiar to this or that group of persons—do we know as a world. Here is the theatre of all the causation which especially concerns us, and, apart from the processes of heat, light, and other vibratory energies proceeding from that particular entity we call the sun, and propagated by that other particular entity we call the ether, terrestrial causation consists in the interactions of particular molar entities at particular places in or about the earth, or of their interaction, through gravitation, with the earth as a whole.

As the last condition applies equally to all terrestrial bodies, living or inanimate, the interactions which are specially concerned in biological and anthropological evolution are those of individual organisms or tribal groups either with other individual organisms or groups or with amorphous or fragmentary entities found in the earth's crust, or on its surface, or floating in or forming parts of its waters or atmosphere. These interactions are partly mechanical, or due to the motion, mass, and physical consistency of the entities concerned; partly physical-molecular, as in conduction or radiation of heat; partly chemical and especially organic-chemical, and, in the case of the higher animals and man, partly purposive and psycho-sociological.

(*h*) *The Earth as a Sphere of Natural Contingency.*

The causal relations above referred to are always of local incidence and take place between particular material entities; so that the most perfect knowledge of abstract natural laws could never explain the precise changes effected apart from the real concrete data. To estimate roughly what these are we must take into consideration, not only the idiosyncrasies of individuals before alluded to, but the heterogeneous distribution of given materials in the earth's crust and of given materials and organic species on its surface, the endless irregular shapes and endlessly different volumes of the amorphous and fragmentary bodies concerned, and the largely unpredictable character of the particular movements of individual animals and men from place to place.

All the minor integral entities which exist on the earth's surface are, mechanically speaking, independent centres of relationship, but those which are living organisms, those which are freely-moving animals, those which are adult and intelligent human individuals are, in progressive order, centres of more varied relationships and, consequently, of greater independence of action. Human freedom consists in the knowledge of some of these manifold contingencies, including the special knowledge of one's own ability to act or not to act in each of a great variety of ways. But *if* we act in some suggested way some consequence will necessarily ensue, or, if we do not act as suggested, something which we might prevent will certainly happen. Thus wisdom, without which freedom is a snare, consists mainly in the knowledge of *contingent necessities*, and, failing this, in that of natural probabilities. The abstract unconditional necessities of causal relationship (*e.g.* the fact of gravitation, as apart from possibilities such as those of accidentally falling or being accidentally crushed by that which falls) can have only a speculative interest.

(*i*) *Cosmic Contingencies.*

While the earth provides a sphere of contingent causation for the minor bodies which move on its surface, the movements of the known bodies of the solar system are clearly necessary and regular. In all probability, however, there is a true sphere of cosmic contingency. Certain bodies travelling in outer space may or may not reach points at which, if reached, they would be drawn into the solar entourage or into the sphere of some particular planet; or, stated another way about, such bodies may or may not exist at points

reached by the solar system in its movement through outer space.

(*k*) *Entities in Time.*

The working substance of the universe at a given moment of time is the whole set of connected entities occupying Space, when each is considered as the concrete totality, not only of its physico-chemical or ethereal particles, but of the properties and relations to surrounding things correlative to the fact of those particles having collectively assumed a particular form at a particular place. But the connected multitude of bodies is substantial only when we regard the present, in all its immensity, as the outcome of all which has been present at any and every moment of the past. Substance in abstraction from process would not *be* substance; and there can be no integral entity, at once finite and molar, apart from the complex event which begins with the entity integrating and must end in its dissolution. The order of the present is dependent no less on those entities whose place is wholly in the past than on those which continue to exist; for the former have not only yielded up their elements at particular places to enter into new combinations; they have, while they existed, interacted with other things, it may be in many different ways, and have thus inaugurated new lines of causal connexion, whether important or otherwise. Thus we cannot properly say of any long-since-disintegrated entity that it is unreal, or that it is not a constituent of the universe, though it is certainly non-existent in the present tense. Its reality lies wholly in the past, but the past bears up the present on what may be metaphorically, yet not altogether fancifully, described as its ever-lengthening columns. These are the multitude of causal sequences which are partly parallel and independent, though many of them converge and unite or separate and diverge, while in any case they are ceaselessly acting through coexisting entities in all parts of Space.

10. Conclusion: The Universe and Human Sentiment.

The foregoing discussion of the meaning of "the universe" has resolved itself into two parts: (1) a definition of the universe, as known under the four aspects of Space, Time, Nature, and Causation; (2) a brief study of the contents of the universe, and especially of those constituent entities, each of which has place, period and nature (or

real-logical intension) of its own, and in the local or relatively local interactions of which it is held that causation properly consists. There is no logical discrepancy between the former view of the universe as an essential unity of diverse but complimentary modes related to human thought and the latter view of it as a collective unity of relatively enduring, integrating, and disintegrating things. The modes envisaged are precisely such as imply and are implied by the reality of the things envisaged.

There is, however, an inevitable conflict of sentiment evoked by the idea of the universe, according as we regard it in the more abstract or the more concrete way. Its fundamental aspects, including many categories, or generic types and modes, which fall under the Natural-Character aspect are, so far as we can judge, eternal; but the majority of individual entities have transient existences and the most enduring of them are probably doomed to ultimate disintegration. It is now more than ever a question whether there are any atomic or ultra-atomic particles which are essentially indestructible. The ether would appear to be so; but ether without matter, or ether *plus* matter *minus* individually integrated objects would not constitute what we mean by a universe.

It is, then, in its abstract aspects that the universe appeals most strongly to our ingrained conservatism or ideal of permanent being; while the relatively transient character of all individual things, and especially that of the conscious human person (if we reject theories of immortality and reincarnation) makes us, by virtue of the same sentiment, rebels against the inevitable process of Time—the god we picture as a reaper whose all-where-reaching scythe is never at rest.

Moreover, while the universe, abstractly viewed, is either good or above good and evil, it cannot be maintained, even by the hardiest optimist, that all the constituents of the universe or all their modes of action are good.

If value attaches to life, as such, the temperately and complexly conditioned habitats which render life possible can be but as rare oases in the desert of ether diversified by cosmic conflagrations which we call nebulæ and stars; while the only one of these oases of which we have intimate knowledge is subject to cosmic accidents in which multitudes of living things are wiped out.

If value attaches rather to the survival of those forms of life which are mutually serviceable, we are confronted with the spectacle of "Nature red in tooth and claw," and with

the less obvious but (for us) more serious problem of parasitic organisms which prematurely destroy, often through agonising diseases, endless specimens of the higher types of life.

If value attaches to the survival and increase of the human race, or, as most of us would prefer to say, to that survival and increase, coupled with the growth of true civilisation and right human relationships, we stand aghast at the tragedy of personal egotisms, crimes, perversions and follies, and at the still greater tragedy of nations engaging in wholesale slaughter, and prostituting the highest developments of scientific knowledge to purposes of insane destruction.

Now on a strictly determinist hypothesis we must blame either the universe or its supposed Creator or First Cause for all the ills of terrestrial nature and all the sins and follies of mankind. If, however, as I incline to think, the process of universal causation is composed of many partially independent processes, emanating from partially independent entities, some of these processes being parallel and some converging and contingently meeting in the stream of Time, and if all life is living experiment and all human knowledge the product of conscious experiment in that sphere of contingent relationships provided by the earth's surface conditions, a very different attitude towards the universe becomes possible. Nature which is not Providence cannot be blamed for not playing the part of Providence. Life alone can be blamed for its failures in adaptation, and man alone for his failures in duty and forethought, which are adaptations to the more intensive environment which human culture creates. Organisms injurious to man are not to be blamed, but, so far as possible, destroyed. Earthquake, flood, etc., are not to be blamed, either in themselves or in their originating sources; but their ill effects are to be anticipated, avoided, or mitigated so far as may be. The materials and forces of inanimate nature are dangerous masters which man may and increasingly does convert into invaluable servants; but, in so doing, he observes the contingent necessities of natural law, and may claim to be obeying the universe itself in that causal aspect which science interprets.

Thus the great reality which seems to be above good and evil in itself becomes good to the intelligent will which learns to make of natural obstacles stepping stones to the disciplined purposes which surmount them; but surmount them only by calling in the aid of equally natural agencies. And the universe is good also to the speculative reason

which does not allow either the interests or the trials of *here* and *now* to eclipse the immense perspectives of *there* and *then*, or the high vision of those modes of being and relationship which always and everywhere subsist.

Praise and blame are alike irrelevant to the universe, yet we cannot but regard it with admiring wonder, akin to veneration. In one of its possibly numberless worlds, the race of man, the leaders and teachers of man, and the whole range of human values, positive and negative, have arisen. We know it sufficiently in scientific imagination to perceive the disproportion between it and our passing speculations about it, and yet to realise that we ourselves are in it and of it and subtly linked to its manifold reality. We worship it, not with vain adulation, but with undaunted inquiry; with progressive discovery which still consciously falls short of its goal. Every increment of science is some revelation of it; but to every revelation it opposes some still unlifted veil. Nevertheless certain broad features of it are, as I have in these pages endeavoured to show, familiar to what I have called scientific imagination—what may perhaps also be called scientific common sense. We contemplate the universe legitimately through combining such data as history, geography and geology, astronomy and molar physics afford; and, much as we have yet to learn of the ether and the ultra-microscopic constitution of matter and of protoplasm, no new knowledge in these directions can invalidate that perdurable world of relatively enduring though manifoldly changing concrete things which makes the whole immensity of Space and derives its being from the whole profundity of Time.

While the view of the universe here adopted is, broadly speaking, monistic, it is quite compatible with a relational dualism in the attempt to read significance into the All. In the first part of this essay I endeavoured to show that the universe presents a double duality of aspect; the coincidental aspects of Space and Time being joined to the coessential aspects of Character and Causation. It is in perceiving these distinctions, as well as in perceiving many of the multitudinous distinctions of natural character, as such, that human reason exercises its proper, or discriminative, function. A more intensive exercise of rational discrimination occurs as regards what is logically consistent or inconsistent and what scientifically true or erroneous and also (though here the discrimination is less purely cognitive) as regards what is ethically or politically good or bad, what aesthetically beautiful or base, and what practically efficacious

or futile. Whether we shall ever be able to trace, or whether a reasonable faith is entitled to suppose, some great orthogenic principle or soul of the universe which discriminated through biological adaptations and perhaps even through certain prior cosmic adaptations before human reason came on the scene are questions which I must leave unanswered.

Suffice it to indicate that there is no intention on my part to close the doors of speculation on the universe, even were such a feat possible. Philosophy may, and both science and poetry in their respective ways no doubt *will* tell us yet more intimately what the universe is; but, without prejudice to any further developments of knowledge and feeling, I have here set down what, for me, the universe *at least* is.

SYNOPSIS FOR READER.

SECTION		PAGE
1.	Some Apologies	129
2.	A Definition of the Universe	131
3.	What would Kant have said?	132
4.	The Meaning of *Thought-object*	134
5.	The Meaning of *Reality*	135
6.	On Formal Definitions of the Universe	138
7.	The Meaning of *Aspect*	139
8.	The Aspects of the Universe	142
9.	The Constituents of the Universe	273
	(*a*) Contents which are not Constituents	273
	(*b*) Features distinguished from Parts and Qualities	274
	(*c*) Process and Event	275
	(*d*) Materials	276
	(*e*) Entities	277
	(*f*) Molar Entities classified with respect to Individuality	278
	(*g*) The Individuality of the Earth	284
	(*h*) The Earth as a Sphere of Natural Contingency	285
	(*i*) Cosmic Contingencies	285
	(*k*) Entities in Time	286
10.	Conclusion: the Universe and Human Sentiment	286

III.—WHAT IS A PERSON?

(The Cornerstone of Ethics.)

By W. M. Thorburn.

Canon Sanday has justly complained, on page 8 of his recent pamphlet: *Personality in Christianity and in Ourselves* (1911): "I cannot ascertain that, even among professed philosophers, there is any generally accepted doctrine of Personality. A German friend, whom I can implicitly trust, tells me that there is no monograph on the subject in German." His own contribution on (p. 13): "Personality is Spirit. But Spirit as such is indescribable": cannot be regarded as very helpful. To make Person a mere synonym of Spirit, would be a wanton waste of an indispensable word with a long distinctive history. Nor do we get any further light from the speculation on pp. 153-157 of his *Christologies Ancient and Modern* (1910), about decomposing "the conception of personality": which Mansel in his *Prolegomena Logica* (139 and 313) has declared to be ultimate, indefinable, and possibly intuitive.[1] This despairing doctrine (of Mansel) was accepted in Dr. Illingworth's otherwise rather cloudy *Personality Human and Divine*, Lecture II. But not in Canon Sanday's *Life of Christ in Recent Research* (1907), (pp. 251-268); where he demurs to the fanciful elaborate analysis of Personality, as "Reason, Will, and Love": in Dr. Moberly's *Atonement and Personality*, ch. ix., pp. 219 ff.

(*b*) Some light is thrown on the causes of futility in such writers as Moberly and Illingworth, by the acute remarks of Canon Bigg, in his *Christian Platonists of Alexandria*, Lecture IV., p. 171 (n. 2): "Psychology again is for another reason an exceedingly difficult subject for a Christian, because

[1] "In every act of Consciousness the ultimate object is an *individual*": *Pro. Log.* 11. See also Mansel's Bampton Lectures on *The Limits of Religious Thought*, III., 83 ff: "Personality, as we conceive it, is essentially a limitation and a relation," p. 84.

he cannot isolate it, because he has to regard above all things the point of junction with metaphysics, and with the (traditional) metaphysics of Revelation. . . . The same difficulty attaches to the theory of Ethics": Similar candour will be found in De Wulf's *Mediæval Philosophy* (§ 281): "The scholastics drew from the history of philosophy, . . . to furnish reasons in defence of what was regarded as the true teaching. History was not studied for its own sake; and this accounts somewhat for the uncritical attitude of the scholastics, as regards the accurate determination of the historical fact, and for their anxiety to interpret texts in favour of their theses, even at the risk of misrepresenting the testimony invoked."

2. Bishop Butler never dealt fully with the problem; and the sound incidental statement, in his *Brief Dissertation on Personal Identity*: "Consciousness is inseparable from the idea of a person or intelligent being": is not made clearer by the following words: "but does not make Personality". These are put forward in opposition to Locke's opinion, as given in his *Human Understanding*: Book II., ch. xxvii., §§ 16, 17, 23. But, if Locke had expressly explained Consciousness as Actual *or Potential*, his position would have been impregnable. For Consciousness always implies Sensation of some sort: as Bain assumes in his chapter on Consciousness (in his *Emotions and Will*), and throughout *The Senses and the Intellect*. Hume, like Butler, spoke incidentally of a "Person or thinking being:" in his *Human Nature*, II., Part 2, § 1, p. 331. Kant spoke mistily of a Person as an "End-in-himself," and elsewhere loosely identified Personality with Freedom (of the Will). His nearest approach to a useful definition is this: "A person is the subject whose actions are capable of Imputation".[2] But this formula is little more than Forensic in its implications; and would exclude infants, idiots, Constitutional Kings, and Consulting Counsel. Fichte shows no advance upon Kant's futility, in saying: "The rational being posits itself as a rational individual, or, as we shall say hereafter, as a person, only by ascribing exclusively to itself a sphere for its freedom".[3] In Paulsen's *System of Ethics*, Personality is mentioned only once (on p. 468); and merely as a synonym of Free Will. Lotze is even mistier than Kant. To say, as he does in his *Mikrokosmos* (IX., ch. iv., § 10): "Selfhood is the essence

[2] Kant: Introduction to the *Metaphysic of Ethics*, iv., p. 279 in Abbott's Translation, or p. 172 in Semple's.

[3] Fichte: *Science of Rights*, Book II., § 5, p. 87 in English.

of all Personality": [4] is only to juggle with two incomprehensibles, put forward as mutual explanations. "Self has no definite meaning," says F. H. Bradley, in *Appearance and Reality*, p. 186 (second edition), and on p. 532: "For me a person is finite, or is meaningless. . . . Most of those who insist on what they call *The Personality of God* are intellectually dishonest. They desire one conclusion, and, to reach it, they argue for another." And Andrew Seth allows in *Hegelianism and Personality* (p. 4): "As regards the nature of Self or Spiritual Principle . . . the candid reader of Green is forced to admit that everything is left vague."

(*b*) Hume, Comte, Bain, Spencer, Martineau, Henry Sidgwick, Bergson, and even William James; although they have a good deal to say about Self; have made no serious attempt to answer our thorny question. Yet James [5] does not seem to have undervalued its importance, in view of what he says in his *Psychology*, his *Will to Believe*, and his *Varieties of Religious Experience*. The nearest modern approach to Canon Sanday's *desideratum*, is made in Canon Rashdall's brief contribution to Sturt's *Personal Idealism* (1902). His Person is: "a conscious, permanent, self-distinguishing, individual, active being" (p. 372). His enlightenment is further shown, in declaring Personality to be (like every other quality) an affair of degree, and possibly inherent in every animal (p. 374). But towards the close (on p. 391) his traditional prepossessions are apparent in the speculations on the "Self-Limitation of God": a theologian's juggle, which must go into the same category with Kant's

[4] Lotze's phrase will be found on p. 687 of vol. ii. in the English translation of his *Microcosmus*. That very wordy and professedly comprehensive work ignores the cardinal matter of Personality, except in a futile and mostly irrelevant chapter on the Personality of God. Hume likewise bracketed Self and Person, but in a casual, if not contemptuous manner: *e.g.*, *H.N.*, I., p. 4, § 2; and II., p. 1, § 5. He regarded both, like Personal Identity, as mere figments of the human imagination. See *H.N.*, p. 4, § 6, pp. 251-259. In his later work on the *Principles of Morality* (s. 1), he treats Personality more seriously: founding his enquiry on an analysis of *Personal Merit*.

[5] "The only complete category of our thinking . . . is the category of Personality, every other category being one of the abstract elements of that:" *Will to Believe*, 327. "In the world of Religion," Personality is "the one fundamental fact": *Religious Experience*, 491. Personal Consciousness: "Its meaning we know so long as no one asks us to define it, but to give an accurate account of it is the most difficult of philosophic tasks": *Principles of Psychology*, I. 225. Compare H. Spencer: *First Principles*, § 20: "The Personality of which each one is conscious . . . is yet a thing which cannot be truly known at all, knowledge of it being forbidden by the very nature of thought".

"Duty to Self,"[6] Spinoza's "Intellectual Love," and the Augustinian Myth of Self-Murder. To confer validity on a contradiction-in-terms: "Deus non posset": as Ockham intrepidly declared in his *S. T. Logic*, i. 15, And: "Non potest Deus naturas rerum mutare": reaffirmed Francis de Vittoria (†1546), the Father of Salamancan Neo-Scholastic Theology, and the Grandfather of International "Law": *Relectiones Theologicae*, x. (De Homicidio), § 6. There is more history, and an altogether greater variety of matter, in William Wallace's posthumous essay on *Person and Personality* (1898), than is afforded by Canon Rashdall. And it begins well with a "common definition" of Person, as "the subject of rights". But it rambles and fades away into Kantian unreality.

3. Lack of Physical knowledge is one great cause, and lack of Juridical knowledge a still greater cause, of the vague and vacuous irrationality generally shown in the use of the words Person and Personality, by modern Moral Philosophers. Extreme instances of recent date are furnished by Richmond's *Essay on Personality* (1900); and Canon Holland's chapter on Property and Personality, in *Property: its Duties and Rights* (1913). It is curious, that the former piece of Turkey-carpet Philosophy (as Macaulay might have called it); though written from the traditional standpoint, in the most arbitrary spirit of the narrowest and most abstract Tommygreenery; incautiously propounds a definition of Personality, whose necessary implications would fill the framer with horror. Personality, he says on p. 21, "is capacity of fellowship". But there can be no fellowship without sensibility. Automata cannot be fellows. Nor could purely intellectual beings: if such beings were possible. And no fact is better established, than the fellowship of ants with ants, and bees with bees. Therefore they are Persons.

(*b*) Like other Man-trumpeting disciples of Green and Caird, these writers are obsessed by an unholy craving to make out Personality as something uniquely and mysteriously magnificent: bracketing every man with God, and impiously degrading the rest of His mundane children. Another characteristic is a very sloppy and fumbling way of dealing with the all-pervading fact of Relativity in thought. Every concept indeed supposes two individual substances, but two are

[6] "From the very notion of duty, it is impossible that I could owe myself anything": *Principles of Moral Science* (1910), p. 48; by W. Macdonald, D.D., of Maynooth.

enough. Personality of course is Relative: as even Boethius [7] understood (*De Trinitate*, 5 and 6). But that is no peculiarity. Redness and Roughness, Loudness and Bitterness, and every other Qualitative Abstraction are likewise Relative. Personality is the Quality of being a Person; and every quality is or implies a relation, although in Logic the two are distinguished. "We think in Relations": as Herbert Spencer was always saying (*e.g.* in *F.P.*, § 47); and we cannot think otherwise. Bain was even more emphatic: "We know only Relations": he said in his *Emotions and Will* (Consciousness, § 24). He had already declared (in § 11) that Relation is: "the widest term in our vocabulary". And, "Is not *all* our knowledge relative"? said Hamilton, commenting on Reid's *Active Powers*, Essay I., p. 513.

4. Everybody fairly grounded in Jurisprudence will instinctively think of a Person, as a potential subject of wrongs and corresponding rights. He will not, however, dispute John Austin's clear pronouncement: "Mere legal persons (*Personae Juris*) are persons by a figment, and for the sake of brevity in discourse. All rights reside in, and all duties are incumbent upon, physical or natural Persons". [8] And, if he goes behind the legal to a moral conception, he can hardly fail to see, that Ethical as well as Physical Personality is founded on capacity of feeling pain of body or mind. For, without such capacity (present or potential), no wrong is possible, and consequently no right; so far as the *Propositus* is concerned. As Bentham pungently said, in his, *Principles of Morals and Legislation* (chap. xviii., n.); "The question is not, *Can they reason?* or *Can they talk?* but *Can they suffer?*" A Moral Person therefore is first of all a sensitive being; a Feeling lump of Life; and his Personality is not destroyed by sleep, stupour, catalepsy, or anæsthesia. In Scholastic language; *Personalitas est Potentia Sensitiva*. Also: *Persona Naturalis est Suppositum Sensitivum*. And: *Omne Suppositum Sensitivum est Persona Moralis*.

(*b*) The philosophic student of "Natural" Science will take the same view as the scientific jurisprudent. To his mind a Poodle is a Person, a Parrot is a Person, a Pollywog

[7] "Substantia continet unitatem, relatio multiplicet Trinitatem": *De Trin.*, 6.

[8] Austin's *Lectures on Jurisprudence*, XII., p. 364 of vol. i. Compare Rudolf Sohm: *Institutes of Roman Law*, sect. 37 (n. 2): "Positive Law finds among its data, but one kind of Personality, and that is the personality of human beings, which personality is the postulate and source of all legal development". On the history of Theological and Jural Personality, see Canon Bigg's *Christian Platonists of Alexandria*, v., pp. 202-206.

is a Person; even a Potato-beetle is a Person: in so far at least, that it is sinful to throw him into the fire. For, all Pain, not merited as a punishment, is an Evil; and every Evil, when caused by an intelligent agent, is a Wrong; and every Wrong is a Sin, because it pains the Divine Governor in His Sense of Harmony and Perfection. But the narrow blatant "Unlettered Physicist,"[9] of the Schaefer-Lankester type, generally borrows his notion of Personality from popular anthropolatreian Theology: especially if he be a Vivisector hunting for a cloak of high moral humbug. He uses Person as equivalent to Human Being: tolerating an analogical extension to Invisible Spirits, on the part of his most useful allies. Dr. J. S. Haldane's *Mechanism Life and Personality*[10] (1913) indeed shows a wider range and outlook. But some self-contradictory sentences like: "In losing his individual personality in the wider personal life he realises his true personality" (p. 127): might have come straight from the cranial haggispock of T. H. Green himself. A General Person is like Hegel's Universal Individual, impossible as well as incomprehensible. "Nusquam in universalibus persona dici potest, sed in singularibus tantum atque individuis": said Boethius: *De Persona*, 2; and in this he was followed by all the Schoolmen. "Individuatio autem conveniens humanæ naturæ est personalitas": said Thomas Aquinas: *Contra Gentiles* iv., 41. "Individuum aliquid et proprium sonat vox persona": sums up Petavius, in his *De Trinitate*, IV., c. 11 § 8 (Index-Summary). "Every object of sense, of memory, or of consciousness is an individual object:" and "every creature which God has made, in the heavens above, or in the earth beneath, or in the

[9] Oxford men owe this happy phrase to Mr. T. C. Snow of St. John's.

[10] Compare Dr. Haldane's pp. 127 and 139, with Canon Holland's pp. 184-187, in *Property: its Duties and Rights* (1913). For a searchlight on Green's fatuity and futility, read Henry Sidgwick's masterly *Lectures on the Ethics of Green, Spencer and Martineau*. Consult also Dr. Cronin's recent (Scholastic-Aristotelian) *Science of Ethics* (Dublin, 1909), which deals with Green's Assumptions on pp. 434-438. In a note to p. 439, he maintains that the Transcendental distinction: "between the individual and the person is wholly groundless. . . . The Rational Self then is essentially individual." Like Hume and Locke, he does not clearly differentiate Self and Person; which are at least historically distinct. I would provisionally suggest the definite use of *Self* for the continuing Subject of Reflection; confining *Person* to the continuing Subject of Sensation. Why should either be wasted as a synonym? *Ego*, if treated as a modern cosmopolitan word, and not as a mere Latin equivalent of Self, might be used as a summary of Self and Person: a continuing Subject of mental Experience in the widest sense. Refer to note 19 *infra*, on the Logical use of *Person*.

waters under the earth, is an individual": said Thomas Reid, the founder of the Scottish Philosophy of "Common Sense": *Intellectual Powers*, Essay V., ch. i., p. 389.

(*c*) To constitute and illustrate the Relation of Moral Personality, we do not need to invoke The Race, or The State, or The Nation, or The People, or Society, or The Community, or The Country, or any other elaborate metaphorical Person, as one of the *Supposita*. We do not want so much as a Football Team, nor even a family. We need nothing more than a small boy and a small dog. Each is a separate perceptible Centre of Sensation; and therefore a Person. Each can suffer pain, and each is therefore a potential subject of wrongs and consequent rights. When the boy tries to kick the dog, he is attempting a Wrong, and he therefore evokes a Right of biting in Self-Defence. If the kick be accomplished, it gives rise to a Right of Retaliating the Pain. But if, before the dog can bite his leg, he buys it off with a bun; then we have a case of Reparation, or Compensation offered and accepted. The dog has got his "boot," in the Old English sense, as well as the New American; and the balance of justice has been restored.

5. Dramatic and Forensic Persons were the only varieties distinctly known in the Ancient World. "*Persona* and our Person are not the same thing:" says Harnack, in his *History of Dogma* (iv., 117 in English). "Our modern conception of Personality": says Dean Inge of St. Paul's, in his *Personal Idealism* (1907), p. 33: "(was) alien even to Roman, much more to Greek thought. Neither the word, nor the idea of a Person has any existence in Greek, or in the theology of Greek-speaking Christians." A Person of the Trinity was originally apprehended by Tertullian[11] and

[11] Tertullian: *Adversus Praxeam*, 2, 4, 7, and 21. And Harnack's *History of Dogma:* vol. iv., pp. 121-123 in English; Part II., ch. i., App. *Trinitas* first occurs (*circa* A.D. 210) in the *De Pudicitia* of Tertullian, § 21. The nearest Greek equivalent, *Trias*, in a work of Theophilus of Antioch (*circa* A.D. 180): *Ad Autolycum*, II., 15. The first clear statement of a Trinitarian Creed was the *Ekthesis* of Origen's pupil, Gregory Thaumaturgus (*circa* A.D. 270). The great *De Fide* of Hilary (Pictaviensis), re-titled *De Trinitate* in the Middle Ages, is only an Anti-Arian manifesto (*circa* 360). As Canon Watson has pointed out in his *Introduction* (p. 62), the word: "*Trinity* is almost absent, and *Person* hardly more common". And, as to the Holy Spirit: "Hilary refuses with some emphasis . . . to call Him God," p. 84. *Trinitas* appears only twice: in cc. 22 and 36 of Book I. *Persona* occurs five or six times, but only once (V. 42) with an Athanasian savour. *Personalis* occurs in VII., 39. Servetus (1553) appeals to the authority of Hilary (*De Trin.*, II., c. 1), as well as Irenaeus and Tertullian, in his *Christianismi Restitutio* (*De Trin.*, I., p. 24): "Ecce verissimam trinitatem ex prisca doctrina!"

other Latins, as something more than Dramatic, but rather less than Forensic. He had functions, but not rights or duties. He might in short be described as a Phase (if not a Face) of Jehovah. And subsequent controversies arose mainly from successive efforts to fill out Tertullian's exiguous qualitative conception, with the nascent Moral Personality of Roman Stoic Natural Law. One rational individual substance clearly might sustain three distinct forms of *Status* or Character, as Paterfamilias, Consul, and Curator of a Prodigal: though he could not be at the same time three Physical or Ethical Persons. "Sustineo unus tres personas, mei, adversarii, Judicis:" said Cicero, in his *De Oratore* (118*b*). The Greeks, however, had no equivalent for the Latin Forensic Person. *Idiotes* and *Atomos* were their nearest words for Person and Individual. Their *Prosōpon* was purely Dramatic, till arbitrarily employed in the Sixth Century, by the Jurisprudent Theophilus, for translating *Persona* in the Constitutions and Compilations of Justinian.

(*b*) Theologically, *Prosōpon* first appears, probably as a translation of Tertullian's *Persona*, in the writings of the Semi-Montanist Hippolytus: *Contra Noetum* (*circa* 230), §§ 7 and 14. But he applies it only to the Father and the Son: the Holy Ghost being described as a *Dunamis* (Power) or *Oikonomia* (Function). It does not appear in the Original Nicene Creed of A.D. 325, nor in the revised Byzantine Creed of 381, which now passes under the older name. It was rejected by Athanasius, because it had been used by the Sabellians, though he tolerated the Latin *Persona*. He preferred *Hupostasis* to either, but without clearly distinguishing it from *Ousia*. Hefele says: *Councils*, i., 295, note: that the Nicene Creed uses *Ousia* and *Hupostasis* as identical. Harnack takes a similar view (*H.D.* IV., 34 and 81-85). And Canon Bigg declares in his *Christian Platonists of Alexandria*: second edition, Lecture V., pp. 202-205: that *Ousia* was Platonic; while *Hupostasis* was Stoic, much later, and very much less common. Both meant the *Idea*, or the vehicle of qualities. The prevailing Latin use was that given in Isidore's *Etymologiae*, VII. 4 (11). *Ousia* was translated *Natura* or *Essentia*, while *Hupostasis* might be either *Persona* or *Substantia*. Further enlightenment on all these words will be found in the Lectures of Dr. Hatch on *Greek Ideas in the Christian Church:* IX., 275-278. Petavius also has discussed them historically; in his *De Trinitate* (1647), IV., c. 2, § 5; and his *De Incarnatione* (1650), V., c. 7, § 8.

6. Austin, in his *Lectures on Jurisprudence* (XII., 357, 365), argues that the Roman Classical lawyers used *Persona* in two senses: originally a legal *Status*, or character: and later, the physical or fictitious subject of that *Status*. The physical perceptible Person was, he thinks, synonymous or coextensive with Human Being: even a Slave having a *Status*, though for some purposes classified as a Thing. Within the sphere of the *Jus Sacrum*, a slave "was from the outset, and within certain limits, acknowledged as a person": says Rudolf Sohm.[12] In other relations he might be called an "Equitable Person," though he could not be a *Persona Stricti Juris*. It is very noteworthy, however, that Justinian's *Digest* contains no Title on Persons, and that the word *Persona* is not explained in the Title *De Verborum Significatione* (L. 50, T. 16). No definition is given in the brief Title of the *Institutes* (I., 3), *De Jure Personarum*; nor in the Code (VI., 48), *De Incertis Personis*. For an example of the wider use of *Persona*, see Ulpian on Noxal Actions concerning Slaves, in the *Digest*, II., Title 9, Fr. 1.

(*b*) Cicero frequently used *Persona* for *Homo*, especially in his Epistles and Philosophical Works. As the Father of Latin Stoic Ethics, he was a prime mover in the analogical extension of Forensic Personality from the *Jus Civile* to the *Jus Naturale*. And from this early *Suppositum* of a potential subject of "Natural" Rights and Wrongs, the modern Spirit-Person of Moral Theology and Moral Philosophy has been developed: largely through Patristic and Scholastic speculations about the Trinity, the Angels, and the Anthropine *Anima Separata*. Hobbes, the intellectual ancestor of Austin in regard to Sovereignty and other ideas, thought it enough indeed (in his *Leviathan*, I., 16), to combine the old Dramatic and Forensic notions under the wider term, Representation. His Person is a Representative. But Moral Personality he has not attempted to define, or even to discuss. A Representative indeed is not even a full Jural Person. He is not necessarily a subject of Wrongs and Rights, either in Human Positive Law, or in Divine Natural Equity.

7. The most common "modern conception" of a Moral Person corresponds roughly with Human Being; taking on, however, an analogical extension to Invisible Spirits. It is not widely divergent from a phrase ascribed to Boethius

[12] R. Sohm: *Institutes of Roman Law*, § 32, p. 166, in Ledlie's Translation (third edition). In the same section (p. 165), Sohm speaks of the Slave, as "the bearer of a natural personality". See § 30 for Persons generally; and § 37 for *Personae Juris*. Gaius, in his *Institutes* (IV., 15), writes: "De servis, eadem de ceteris quoque personis". Nowhere does he define or explain *Persona*.

(† 525), which was generally accepted in the Middle Ages: "Persona est naturae rationalis individua substantia".[13] But in regard to Persons of the Trinity, Duns Scotus,[14] like the Solid and Copious Richard of Middleton († 1300), preferred the separate formula substituted by Richard of St. Victor († 1173) in his *De Trinitate* (IV., 22): "Intellectualis naturae incommunicabilis existentia". But this after all is a distinction without a difference. For, only the divisible can be communicated, even by Emanation.[15] And Existence differs from Substance, only in including "Accidents" also; and in not being found in the Athanasian Creed. The mystical Prior of St. Victor in Paris, as he explains in the previous chapter (21), rejected the Boethian definition as inapplicable to the Persons of the Trinity, because they cannot be individual in substance. In chapter 24 however, Richard goes on to propound a: "Descriptio personae quae videtur soli et omni convenire". It is worded: "Persona sit existens per se solum juxta singularem quemdam rationalis existentiae modum". This was approved by Alexander of Hales and Albertus Magnus;[16] and much re-

[13] Boethius: *De Persona et Duabus Naturis* (Christi), cap. 3, p. 1343, in Migne's *P.L.*, 64. See also Peter Lombard's *Sententiae*, III., D. 5. And Thomas Aquinas: *S.T.*, I., Q. 29, A. 24. Locke's first description of a Person goes no further: "A thinking intelligent being that has reason and reflection": *Essay on the Human Understanding*, II., c. xxvii. § 9. But in § 26 he goes on to explain that Person: "is a forensic term appropriating actions and their merit; and so belongs only to intelligible agents capable of a law, and happiness and misery. This personality extends itself beyond present existence to what is past, only by consciousness, . . . that which is conscious of pleasure and pain." It is very curious that Hume, who was a member of the Scottish Bar, should never have discussed Person as a subject of Rights.

[14] Duns Scotus: *Opus Oxon*, I., D. 23, Q. 1, N. 4. Richard of Middleton (the early Franciscan Nominalist): *In Sententias*, I., D. 23, A. 1, Q. 1; and D. 25, A. 1, Q. 2. Melanchthon's formula is peculiar, in treating the Boethian wording as quite consistent with the Ricardian: "Persona est substantia individua, intelligens, et incommunicabilis": *Loci Theologici* (De Tribus Personis Divinitatis). Calvin also adopts "Incommunicability": *Institutes*, I., c. 13, § 6, but he uses *Subsistentia* instead of *Substantia*. Hooker draws the same distinction, in his *Eccl. Polity*, V., c. 51, § 1; but his treatment of the matter is meagre and somewhat obscure. There is, however, a clarifying note in Bayne's recent edition of the Fifth Book. The controversial words are lucidly differentiated by F. Turretin: *Institutio Theologiae*, (1679), III., Q. 23, § 5.

[15] Bishop Durand of Meaux (Durandus a Sancto Porciano) applies the word *Emanatio* to the origins of the Persons of the Son and Spirit, as distinguished from the Father; *Nativitas* and *Processio*: *In SS.*, I. D. 10, Q. 2, § 4; and D. 11, Q. 2, § 23. Nobody has ever explained, how the Apostles on the day of Pentecost could all have been filled with an incommunicable Holy Ghost. This point was seen and seized by Michael Servetus, in his *Apologia ad Melanchthonem* (initio), p. 677.

[16] Alexander of Hales: *Univ. Theol. Summa*, I., Q. 56, M. 6. Albertus Magnus: *In Sententias*, I., D. 25, A. 1: "Melius dicatur existentia quam

sembles the simpler formula of J. H. Alsted, the German Reformed Precursor of Kant: "Persona est ens singularis, per se subsistens et intelligens". There is also a substantial similarity between the words of Alsted, and some used by Durand de St. Pourcain: the great Dominican Nominalist: "Persona non dicit solum individuam substantiam naturae rationalis, sed completam per se subsistentem". *In Sententias*, III., D. 10, Q. 1 (10).

(*b*) Thomas Aquinas himself concurs with Richard in regard to Persons of the Trinity, and says (*S.T.*, I., Q. 30, A. 4): "De ratione personae est, quod sit incommunicabilis". Bishop Durand likewise affirmed: *In Sententias*, I., D. 25, Q. 1, § 3: "Ratio enim personae consistit in incommunicabilitate". He shortened the phrase of Boethius into: "Suppositum naturae intellectualis" (*In SS.*, I., D. 23, Q. 1, §§ 7 and 13); which Ockham (*In SS.*, I., D. 22, Q. 1), still further contracted, as *Suppositum intellectuale*. This last was accepted by Francis Turretin, the Genevan Aquinas (1687): *Institutio Theologiae*, L. III., Q. 23, § 7. And it would not be inconsistent with the full and exact truth: *Persona* (*Naturalis et Moralis*) *est Suppositum Sensitivum;* or its valid Converse: *Omne Suppositum Sensitivum est Persona Naturalis et Moralis.* For: "Nihil est in intellectu quod non prius fuerit in sensu": an Aristotelian tradition generally accepted by the Schoolmen.[17] There can be no intellection without previous sense-perception; and there is no sense-impression which does not start some ripple of intelligence. "Tota humana notitia a sensibus surgit": said Abelard.[18] Even Aquinas admits: *S.T.*, I., Q. 77, A. 7 (C.): "Sensus etiam est quaedam deficiens par-

substantia". Alsted: *Cursus Philosophiae Encyclopaedia* (1620), Tom. I., p. 161; Metaphysica, III., 7. In his *Logic* (1614), he says briefly: "Individuum rationale est persona": IV., c. 9, p. 283.

[17] For example, the "Seraphic" Bonaventura: *In SS.*, III., *Dist.* 37, *Dub.* 1. Accepted also by Hobbes (*Leviathan* I., 1), and Locke (*Human Understanding*, I., 4, § 20). Compare the Fifth Canon of Epicurus, as given in Gassendi's great *Syntagma* (Logic, I., 7): "Omnis, quae in mente est Anticipatio seu Praenotio, dependet a Sensibus".

[18] In his *Tractatus de Intellectibus*, which is not printed by Migne. See p. 747 of vol. ii., in Cousin's edition of Abelard's *Works*. Compare Sully's *Psychology* (1884), ch. v., p. 107: "No intellectual work such as imagining and reasoning can be done till the senses have supplied the necessary materials". As Bain had pointed out in 1855 (*Senses and Intellect*, II., ch. i., § 15, p. 36 in last edition), Sensation is "the key to intellect". Aristotle had long before said: "Sensus autem cognitio quaedam est": in his *Generation of Animals*, I., 23. But, as Zeller has rightly complained, at the end of his chapter xi. (*Physica*) in his *Aristotle* (vol. ii., 134 in English): "Just as his Metaphysic gives no clear and consistent account of Individuality, so his Psychology fails with regard to Personality".

ticipatio intellectus . . . imperfectiores potentiae sunt priores in via generationis": Durand further explains (*In SS.*, II., D. 3, Q. 2) the words used in dealing with Persona: "Individuum, Suppositum, et Persona aliquo modo sunt idem, et aliquo modo differunt, quælibet enim natura singularis in quocunque genere sit, potest dici individua. Suppositum autem non dicitur nisi natura singularis in prædicamento substantiæ, nec quæcunque talis, sed solum completa. Persona dicitur illud idem in natura intellectuali solum; ergo omnis persona est suppositum, et omne suppositum est individuum. Sed non omne individuum est suppositum, nec omne suppositum est persona."

(*c*) Laurentius Valla, the early "Humanist," and first exposer of Constantine's mythical Donation, followed up Richard's objection, and entirely eliminated the notion of Substance from the definition of Person. His own formula: "Persona significat qualitatem, qua alius ab alio differimus": *Elegantiarum*, Liber VI., cap. 34: treats the word Person merely as a name of Relation; for Quality is only an aspect of Relation. "Relation may thus be understood to contain all the categories and forms of positive thought": according to Sir William Hamilton (*Discussions*, 603). The insufficiency of such treatment had been exposed half-a-century earlier by Durand: *In SS.*, I., D. 23, Q. 1 (Utrum Persona significat Substantiam an Relationem), NN. 18 and 20. He concluded (N. 20): "De quo dicitur persona non solum includit relationem, sed etiam cum relatione essentiam". In effect he says (18), Persona *importat* Relationem, sed *non signat*. And Valla would have been right, if he had said *Personalitas* instead of *Persona*. Boethius himself had elsewhere said: *De Trinitate*, 5: "Omne nomen pertinens ad Personas significat Relationem". Bellarmine (in his *De Christo*, II., 5) was very angry at Valla for saying (*loc. cit.*): "Si Persona pro Substantia accipiatur, non esse in Deo Personam magis quam in Bruto". Valla went on to say: "Hanc ego diffinitionem (Boethii), ut Graeculam et ineptam derideo". In his previous chapter (iv.) the great controversial Cardinal treated as synonymous, *Persona*, *Hypostasis*, and *Suppositum*; which last had universally been denominated *Prima Substantia*, from the Age of Boethius; but in Scholastic times was also described as *Ens completum*. Bellarmine further declared Persona to be *fundamentum* (seu *basis*) naturae. In his *D.C.*, III., 17, he concluded his defence of Boethius against "Luther's Precursor," with a rather clumsy paraphrase: "Dicitur igitur Persona individua substantia, quia est unum subsistens, non divisum in se in ratione subsistentiae,

et divisum ab omnibus aliis". Gabriel Biel of Tubingen († 1495), Luther's instructor in Nominalism, had provided a neater alternative: "Singularis substantia ab omni alio realiter distincta."[19]

8. It is generally inferred from Peter Lombard's discussion of Personality in connexion with the two natures of Christ: *SS.*, III., D. 5 (E.): that he regarded the "Anima a corpore exuta" as a Person; though it is not there expressly stated. His contemporary, Prior Hugo of St. Victor, is, however, quite explicit in his *De Sacramentis*, Book II. (Part 1), ch. xi.: "Remanet itaque separata anima a carne, eadem persona spiritus rationalis". Another contemporary, Gilbert de la Porree, took the contrary view in his Commentary on Boethius (*De Persona*, 2): Migne, *P.L.*, 64, p. 1372. The Bishop of Poitiers denied that a disembodied human soul (Anima Separata) could be a Person, on the formal ground: "Quod nulla persona pars potest personae. "Omnis enim Persona adeo est, per se una." It does not appear, whether he fully appreciated the essential ground, that a purely intellectual Person (or being of any sort) is impossible. For intellect may be separated from visible matter, but it must have some sort of sensitive medium (if not substratum), for any sort of active or passive relation. As Stockl justly remarks (*Hist. Phil.*, § 35, 18), Aristotle's theory of God (as Pure Form) is "undoubtedly the weakest point in his system".

(*b*) Gilbert was followed by most of the later Schoolmen; including Ockham: In *SS.*, I., D. 22, Q. 1. Thomas Aquinas broadly opposed the Master of the Sentences; (saying in the final words of *S.T.*, I., Q. 29, A. 1) with regard to the *Anima Separata*: "Non competit ei, neque diffinitio Personae, neque

[19] Gabriel Biel: *In SS.*, I., D. 23, Q. 1, A. 1 (*Ens completum*). The reference to Boethius (on *Prima Substantia*) is: *In Categorias Aristotelis*, I. (De Substantia). Vasquez, however (unlike Bellarmine), affirms, when discussing the Personality of Christ: *In Thomam*, III., *Disp.* 69, cap. 2, N. 9: "Persona enim inferior est hypostasi": meaning that *Persona* is a kind of *Hypostasis*. The latter he seems to equate with *Suppositum* rather than *Substantia*. Petrus Hispanus († 1277 as Pope John XXI.), whose *Summulae Logicales* came next perhaps to the Lombard Sentences in vogue as a Mediæval textbook, did not deal directly with *Persona* or *Suppositum*. But in Tr. VII. (De Suppositionibus seu Terminorum Proprietatibus), he frequently uses *personalis* and *personaliter* with a clearly individual signification. *Personalis Suppositio* (*i.e.* Personalitas) is defined in § 4, as: "Acceptio termini communis pro suis *inferioribus*" (*i.e.* particulars or denoted individuals). As Ueberweg explains (*Hist. Phil.*, § 104): "When *supponere* is used transitively, the *termini* are the *supponentia*, and the individuals the *supposita*". John of Damascus occasionally (*e.g. Dialectica*, 42) uses *Prosōpon* to signify Individual. But he never applies it to the Trinity. His word in that connexion is always *Hupostasis*: *e.g.*, *Pistis Orthodoxos*, III., 6.

nomen". But in Q. 77, AA. 5 and 8, there are qualifying statements, which confuse the issue. While not disputing the Aristotelian principle: "Sentire non est proprium animae, neque corporis, sed conjuncti"; (*De Somno*, 1); he maintains: "Quaedam operationes sunt animae, quae exercentur sine organo corporali, ut intelligere et velle; unde potentiae, quae sunt harum operationum principia sunt in anima, sicut in subjecto". He concluded in A. 5: "Quaedam vero sentit sine corpore, id est, non existentia in corpore, sed solum in apprehensione animae, sicut enim cum sentit se tristari vel gaudere de aliquo audito". These Potencies of Joy and Sorrow, however: "sunt in anima separata, non secundum appetitum sensitivum, sed secundum appetitum intellectivum, sicut in Angelis". Scholastic *Potentia*, according to De Wulf (*Mediæval Philosophy*, § 285), meant Substantial Reality.

9. The Schoolmen were too acute, not to see that the Abstract Person of Tertullian was logically incongruous with the concrete person of Boethius. The more candid of them admitted that *Persona* had more than one signification. "Nomen Persona varia significabat": Duns Scotus expressly declared (*R.P.*, D. 25, Q. 1); though he did little to clear the already dense confusion. He indeed threw down a new bone of contention: the alleged negative [20] character of Personality. "Per solam negationem additam naturae sit persona": *Opus Oxon.*, III., D. 1, Q. 1, Scholium 4. Scholium 6 explains this as *Negatio communicabilitatis;* which is only a roundabout way of saying that a Person, being an individual substance, must be indivisible. His editor Wadding's chief collaborator, John Ponce of Cork, copiously controverts the Scotian supersubtlety in a long note: pp. 135-166 of Tom. VII. From

[20] Possibly he took the hint from Henry of Ghent († 1293), the most Platonic of the Schoolmen: "Ratio individuationis, . . . quae est ratio constitutiva suppositi, est negatio": *Quodlibeta*, V., Q. 8, p. 246: also *Summa*, *Art.* 39, Q. 4, § 19 (vol. i., p. 635). The Solemn Doctor seems likewise to have anticipated, if he did not suggest, Comte's most blatant paradox: "L'homme proprement dit n'est, au fond, qu' 'une pure abstraction; il n'y a de reel que l'humanité, surtout dans ordre intellectuel et moral": *Philosophie Positive*, Leçon 58 (p. 692 of vol. vi.). Comte's meaning is perhaps more clearly, as well as concisely, expressed, in Edward Caird's sympathetic sentence: "The school of Locke had generally set aside the abstract universal in favour of the *equally abstract* individual": *Social Philosophy of Comte*, 61. Verily, here is a *stultiloquium*, worthy of those Hyperstoics, whom Seneca derided in his 113th Epistle; for making four new "Animals" out of the Cardinal Virtues! Is not an Individual a percept (or intuitive cognition); from which a Quality may be abstracted to form a singular concept, and be afterwards combined with other singular concepts to form a General Concept? See De Wulf on H. of G., in his *Phil. Schol. dans les Pays Bas*, ch. iii., § 5. And H. of G., *Quodlibeta*, VII., 1 and 2.

this it appears that the Thomists were followed by Durand, Ockham, and Suarez, as well as Vasquez, in taking the Common-Sense view: "Persona constituitur per aliquid positivum superadditum naturae": as expressed by Scotus himself (*loc. cit.*). Obviously the Boethian *Persona* adds the quality of Rationality (and by implication of Life) to *Suppositum*, just as *Suppositum* adds the quality of Individuality to *Substantia*.

(*b*) Spinoza long afterwards set out a general principle: "Demonstratio est negatio" (Epistle 50). But this was in referring to geometrical figures, and was intended only for mathematical application. In his *Intellectus Emendatio* (XIII., 96), he positively declared: "All definition must be affirmative". All limitation, whether by words or lines, or walls or cuticles, must indeed be both positive and negative. It necessarily excludes as well as includes; but in definition the inclusion is the primary purpose. The Boethian definition of Person is, after all, nearly satisfactory, if *Rationalis* be understood as implying *Sensitivae*. But it would be improved by the express substitution of the latter word. For, Sensation is sufficient without Intellection. But intellection is impossible without previous sensation; Malebranche notwithstanding.

(*c*) Peter Lombard (in his *SS.*, I., 22, 23, 26) tried apparently, though his language is rather loose, to get over the dogmatic difficulty, by treating the Singular and Plural of *Persona* as radically different in meaning. The former signified Substance or Essence, and the latter Relations: both the mutual relations of Father and Son, *Paternitas* and *Filiatio;* and the relations between them and the Holy Spirit (*Spiratio activa communis* on their part, and *S. passiva* on his part). The divine names were also to be considered, "relativé ad creaturam": I., D. 22, B. Durand inclines in the same direction: *In SS.*, I., D. 23, Q. 1 (18, 19, 20). But that solution was rejected by Richard of St. Victor (*De Trinitate*, IV., 9); Alexander of Hales (*U.T.S.*, Part 1, Q. 56, M. 6); and even Duns Scotus (*R.P.*, D. 26, Q. 1, Scholium 2). Scotus, however, proceeds in Scholium 3, to give other reasons for agreeing with the "Sententia Communis"; to the effect that Divine Persons are "constituted by Relations": as Durand soon afterwards said of *Supposita* generally: *In SS.*, I., D. 4, Q. 1, § 10. Thomas did not follow the Master as to the Grammatical distinction, but held: "Persona in divinis significat simul essentiam et relationem, . . . relationem in recto, et essentiam in obliquo": *S.T.*, I., Q. 29, A. 4. Durand's conclusion is similar in content, but different in

arrangement. His *Persona* designates Essence and *imports* Relation, as already noted in section 7*c*. Hales had nearly anticipated Durand's conclusion, in his *U.T.S.*, Part I., Q. 57, AA. 1, 2, 3; where *Essentia* is very fully discussed in connexion with *Persona*. Suarez distinctly pronounces: "Divinae Personae sunt relativae Personae": and goes on to explain: "Neque essentia esse potest a parte rei sine qualibet relatione, neque relatio quælibet sine essentia". *Metaphysica*, Disputation 7, § 3, N. 27. And so does Petavius: *De Incarnatione*, VIII., c. 10, § 15; "personalis proprietas, quae in divinis personis est relatio". The question is fully discussed in his *De Trinitate*, IV., c. 11.

10. Modern discussion, for the most part, has only darkened further what was dark enough before. Orthodox Western writers have been fettered or intimidated by the mysterious and incomprehensible "Athanasian Creed"; which happily has never been accepted by the Eastern Churches; and has been abandoned by many of the Protestant, including the Episcopal Church in the United States of America. It has never had a syllable of Scriptural or Oecumenical authority; and, as Harnack remarks in his *History of Dogma*,[21] nobody knows exactly how, or when, it came to secure general recognition in the Mediæval Latin Office of Prime. The most outstanding relevant events are; the issue of a Diocesan Capitulary by Bishop Hatto of Basel in 822, enjoining the repetition of the *Fides Sancti Athanasii* on Sundays at Prime;[22] and the extension of this direction in 856 to all the Frankish clergy by the *Capitula Ecclesiastica*[23] of the Emperor Lewis II. Dr. Lumby has told us, in his *History of the Creeds* (1873), ch. v., p. 260; that the Athanasian Canticle (nearly in its present form) is found in the Prayerbook of Charles the Bald, compiled *circa* 870. But Canon Swainson says in his work on *The Creeds* (1875), ch. xxxv., § 2, p. 507: "I cannot find that the Church of Rome has ever formally accepted the document" (*Quicunque*). On his title-page and elsewhere, he follows Hinkmar of Rheims (*circa* 858) in calling it a "Sermon on the Faith". It was ignored by the Council of Trent, and in the Roman Catechism founded on that Council's decrees. Only in England was it ever in daily use: before it was confined to the six great Festivals in the Prayerbook of 1549.

[21] Harnack: *H.D.*, Part II., Book II., ch. vi., § 2: note 5 to p. 304 of vol. v. in English.

[22] Mansi: *Acta Conciliorum*, XIV., 395: *Capitulare* (4) of Bishop Hatto of Basel, A.D. 822.

[23] *Monumenta Germaniae Historica* (G. H. Pertz), *Legum*, Tom. I., p. 439: *Cap. Eccl.*, 4 (A.D. 856).

(*b*) The Gallic compilers of these imposingly antithetic "Sacred Paradoxes" had taken a lesson from Tertullian's Bar-bluff in another field of controversy: "Bene impudens et feliciter stultus": [24] and gloried in the shame of their own systematic self-contradiction. As Harnack says of Augustine (*H.D.*, IV., 130), they "revelled in the incomprehensible". Just so did Anselm bludgeon the critics of his arbitrary unreason, with his paralysing: "Credo ut intelligam". [25] Mystery and "Profundity" have always been the mask and the cloak of Imposture. The truthful teacher seeks above all things to be intelligible to all men. Candour and Clarity must be the accepted keynotes of True Religion, as they are of True Science and True Philosophy. If a Philosopher cannot make his meaning clear to a classically educated man of moderate intellect, the fair presumption is: either he wishes to befog some cherished *Contradictio-in-adjecto:* or, he has no meaning worth the trouble of unravelling.

11. Let us now recapitulate. The word Person has so many customary and more or less legitimate meanings, not to mention imposing verbal juggles, that it ought never to be used in controversy or exposition without some limiting prefix or affix. When this precaution is neglected, we may fairly assume that an Ethical Person is meant: that is, a sensitive living being, considered as the potential subject of Natural Wrongs and Rights, in the light of Divine Ideal Justice. All the tolerably candid and lucid argumentative uses of the word may be grouped under six heads in a roughly historical order. All of them, metaphorical as well as material, spring from the Latin word *Persona*, which has never been defined in Roman Law, nor in any philosophical work not principally concerned with Christian Theology. The first definition, by any authoritative writer, is that given in ch. 3 of the *De Persona et Duabus Naturis* (Christi); generally (though doubtfully) ascribed to Boethius, who died in A.D. 525: "Persona est naturae rationalis individua substantia". It was sometimes expressed by later writers: "rationabilis naturae individua subsistentia". Or, "individuum rationalis substantiae": as by Hugo of St. Victor († 1141) in his *De Sacramentis*, II., Part 1, ch. 11.

(A) DRAMATIC. *Persona* (like the Greek *Prosōpon*) was originally a very simple concrete object of perception: a

[24] Tertullian: *De Carne Christi*, 5. His notions about Personality and the Trinity may be gathered from his *Adversus Praxeam*, especially chaps. 7-12.

[25] Anselm of Canterbury: *Proslogion*, cap. 1 (finis). Compare Augustine (*Sermo*, 43, § 7): "Ut intelligas, crede".

Mask. It soon came to mean a Face, or the General Appearance of a Body; and then the Actor who wore the Mask, or the man whose words or appearance the Actor sought to reproduce. Lastly, by metonymy, it expressed the Actor's function of Representation, and the General Character or some conspicuous Quality of the Man, Beast, or Demon thus represented. The word *Larva*, originally another expression of Mask, underwent a parallel development through Scarecrow and Goblin into Ghost or Spirit. Linnæus was the first to use *Larva* in Zoology.

(B) FORENSIC or JURAL. *Persona* in Rome (unlike Prosōpon in Greece) passed by analogy from the Stage to the Forum: to describe the concrete subject of a legal relation or *plexus* of relations, and his abstract *Status*, Function, or Dignity. By successive extensions from the *Jus Civile* to the *Jus Gentium*, and the Ideal *Jus Naturale*, it became practically synonymous with Freeman, and then with Human Being. It next became a man's body as opposed to his property: a Somatic or Corporal Person, as we might say. And at last it degenerated into a convenient double-gendered part of common speech: a Colloquial or Grammatical Person,[26] without any legal or controversial significance. This elimination of the jural content, from the shell of the legal term, made possible the genesis of the Physical or Natural Person.

(C) FICTITIOUS or METAPHORICAL. This was a very special variety of the Jural Person, deserving a separate position in classification, on account of its far-reaching Historical effectiveness, in mystifying Ethical, Political, and Theological Controversy. Parallel with the normal Jural Person, there had grown up a lateral metaphorical use of the

[26] It is an open question, however, whether the Grammatical Person ought not to be treated separately from the Colloquial, and derived directly from the Dramatic. Abelard used the Grammatical Person to illustrate the Theological Person of the Trinity: *Introductio ad Theologiam*, II., 12, 13: "Idem homo et prima sit persona secundum quod loquitur, et secunda secundum quod ad eum aliquis loquitur, et tertia secundum quod de ipso inter aliquos sermo est. Et prima quidem persona, ceterarum principium est quoddam et origo seu causa. . . . Sicut autem juxta Grammaticos persona sub disjunctione facilius describitur hoc modo: Persona est qui loquitur, sive ad quem loquitur, vel de quo tanquam diverso loquitur, ita et divinae personae sub disjunctione patentius describi, hoc modo videntur." See also ch. 13 of his *Epitome Theologiae Christianae:* supposed by some to have been compiled by his disciples, and to be the groundwork of the Lombard Sentences. The parallel cannot be deemed very close, unless Abelard's real notion of the Trinity was like Tertullian's: three mutually related phases or functions of the divine Individual Substance.

term; to express the legal relations of a definite noun of multitude (*Collegium*), a personified machine like the *Fiscus*, or a mere conceptual *Suppositum* like the *Haereditas jacens:* the tangle of rights and obligations forming a derelict or undetermined heritage. These were the *Personae Juris* which Austin calls: "Persons by a figment and for the sake of brevity in discourse". Such Persons in English Law are The Crown, and any Corporation. The invention of them has powerfully stimulated the vicious intellectual habits of materiating metaphor; and of personifying nouns of multitude, or machinery of collective action, or even formulas of qualitative Abstraction. And nothing has done more to foster hypocritical Tyranny and Dishonesty, than the fraudulent conversion of jural and other fictitious persons, into natural and moral persons endowed with imaginary Rights Divine. Semper et ubique: *Dolus latet in generalibus.* In the trenchant language of the English Pragmatist leader: "The idolatry of Concepts deludes us into thinking that Man was made for Ideas": F. C. S. Schiller: *Studies in Humanism*, 43-44 (From Plato to Protagoras). Metaphor is the modern substitute for Magic. The old illiterate idolater worshipped the work of his own hands. The new semiliterate idolater worships the tool of his own brains.

(D) PHYSICAL or NATURAL. The germ of this concept, as we have seen under (B), grew upon the Colloquial or Grammatical Person, who had resulted from the diversion and partial decomposition of the Jural Person in his greatest extension. Physical Natural Persons are Individual Substances or portions of matter; each containing a Centre of Sensation,[27] and being therefore capable of experiencing Pain. This was the kind of Person whom Boethius had in his mind, and his definition would have been sufficient, if he had used the term *Sensitiva* instead of *Rationalis:* of which indeed it ought to be held an implied presupposition. For, "Nihil est in intellectu, quod non prius fuerit in sensu". And this, too, coincided nearly with the substratum of the normal Person in Roman Law, excluding merely fictitious *Personae Juris.* In Christian Theology this concept of Natural Rational Personality embraced not only all Living

[27] Foreshadowed perhaps in the Aristotelian *Mesŏtés* and the Platonic *To Mesomphalon.* Plants differed from Animals in lacking such a *Mesŏtés;* whose seat was the heart, according to Aristotle's *History of Animals*, VIII., 1. See also his *Parts of Animals*, III., 4. In his *De Vita et Morte* (3), the heart is called "pantōn tōn aisthētēriōn koinon aisthētērion": (omnium sensoriorum commune sensorium). A Physiologist might prefer to say: an Isolated and Self-contained Sensory Circuit: rather than a Centre of Sensation.

Men, but Angels and Devils; sometimes also Disembodied Human Souls; and even the One Divine Substance: who must be sensitive in some way, because He is always conceived as capable of experiencing Joy and Sorrow.[28] But Bentham was the first effective thinker, who extended the quality of Personality to all of God's sensitive creatures, in proportion to their degrees of sensibility. To him the only test-question was: "Can they suffer?" Pain was "the only evil": *Principles of Morals and Legislation*, ch. x. Pain is indeed the most certain and positive thing in the Universe. And Freedom from (severe unmerited) Pain is the one indispensable condition of any life worth living.

(E) ETHICAL or MORAL. This is a Physical Person, or Sensitive Substance, considered as the subject of Wrongs and Rights under Divine or Ideal Equity: apart from any system of Human Positive Law. And this, like the Physical Person, was not expressly treated by the philosophers of Greece and Rome, though often consciously or unconsciously assumed. The nearest Greek equivalents for Individual and Person were *Atomos* and *Idiotēs*. Mundane Moral Personality has long been impiously restricted to the Genus *Homo*, by the exclusive arrogance of self-exalting Anthropolaters, who call themselves Christians. But there is now a growing moral assent to the Personality of all God's children, on the basis and in the degree of their capacity of suffering.[29] The One True God, although a Sensitive Substance to whom Sin causes Pain, cannot be an Ethical Person, because a supreme lawgiver cannot in strict language be the subject of Wrongs and Rights. And a Person of the Trinity cannot be an Ethical Person, because he is Abstract, has no Substance, and therefore can have no feelings. A supposed concrete person, who is not an individual substance, can be nothing but a verbal juggle. A Metaphorical Person likewise cannot be an Ethical Person. It may have a Legal Right. But it can never have any Right in Natural Equity. For, it has no feelings, and therefore can suffer no Wrong.

[28] "God must be thought of as feeling pleasure—yes and (as far as I can see) pain also, or something like pain": Canon Rashdall on *Personality*, in *Personal Idealism* (Oxford Essays, edited by H. Sturt), p. 387. *Divinus* was the Classical Latin equivalent of our modern Ethical word *Ideal*.

[29] May we not infer such assent on the part of William James, from what he says on p. 69 of his Lecture on *Human Immortality*: "If any creature lives for ever, why not all?—why not the patient brutes"? Locke seems to have entertained a similar opinion: *Human Understanding*, II., ch. xxix., §§ 5-8. And Bishop Butler allowed it to be probable: *Analogy*, I, chap. i., § 21. See also Canon Rashdall in *Personal Idealism*, p. 374.

(F) (1) THEOLOGICAL. Some would bestow this name on the Ethical Person, considered as a potential subject of blissful or baneful immortality. But the only strictly Theological Person is a Person of the Trinity: a merely abstract person in origin and intelligible validity, but practically the weightiest of all persons in History and Controversy; and second only to the Fictitious Person, as the most fertile source of deception and confusion in Moral and Political Philosophy. As conceived by his originator Tertullian, he was essentially Dramatic, with a savour of Jural Personality in its earliest form: the notion of legal *Status* or Function. And that is the only rational self-consistent meaning which he can ever sustain. But he has been distorted, obscured, and turned into impossible nonsense, by the stupid or disingenuous attempts of subsequent dogmatic tinkers, to cram the connotations of Physical and Ethical Personality into Tertullian's rudimentary concept of Relation in Phase and Function. Controversy very soon began, because the word was ambiguous from the beginning. Tertullian's use was only Abstract, and intended to describe the most prominent Qualities, Relations, Phases, Active Modes, or Modal Accidents of the Substance Jehovah. As Harnack explains (*H.D.*, IV., 121); he regarded Son and Spirit as: "Subordinate to the Father; in fact transitory manifestations". His God was a concrete *Ens Reale*, an Essence, an Existence: but also a rational individual substance, and therefore a Person as afterwards defined by Boethius.

(F) (2) The One true God, as a Person, does not, however, come under this heading. He is a Natural Physical Person: (*Natura Naturans*,[30] according to Aquinas, *S.T.*, I.-II., Q. 85, A. 6): and a Sensitive Substance. Nor does it include the *Persona Ecclesiae:* Bishop, Chapter, or Rector. That is a special variety of the Jural Person, as a subject of positive legal rights. He was the sort of Person appearing most frequently in the *Corpus* of the Canon Law; where his Dignity is spoken of as his *Personatus*. It notices also the *Persona Miserabilis* (Pauper Suitor), *Persona principalis* (as distinguished from his advocate or procurator), and some other varieties of the Jural Person. But it makes no allusion to anything like a Physical or Ethical Person. Even Reiffenstuel and Van Espen, the great critical and expository Canonists of the early eighteenth century, make no attempt at any general or Ethical definition of Person or Personality. The

[30] See Vincent of Beauvais; *Speculum Doctrinale*, XV., 4. And Spinoza: *Ethics*, I. (Concerning God), Proposition 29 (note).

Canonical Sin of *Acceptio Personarum*, mischievously misrendered "Respect of Persons" in our English Bible, is the sin of an unjust Judge in favour of one party against the other and better-deserving. And we shall do well, before leaving the subject-matter of Personality, to explode the poisonous vulgar error, which has grown out of that ambiguous translation.

12. The Greek word *Prosōpolēpsia*, so unhappily mistranslated Respect of Persons in our Jacobean Bible, was not understood in the modern popular sense of the English words, by Peter and James, or even by Luke and Paul. To them it meant Judicial Partiality: especially the kind of partiality which judged hastily on first impression of superficial appearance: in vulgar English, "Taking a man at his face-value"; and jumping to conclusions without a full and fairly-balanced enquiry. *Prosōpon*, like *Persona*, meant first of all a *mask*, and afterwards also a *face*. And Face is likewise the meaning of the Hebrew *Pānim*, in the parallel passages of the Old Testament, to which we must trace the origin or suggestion of the more notorious phrases of the New. The most enlightening of these sentences is the command in *Leviticus* xix., 15: "Non consideres personam pauperis, nec honores vultum potentis. Juste judica proximo tuo." There have always been class-hating or butter-hunting judges, who systematically favour the poorer or otherwise inferior party: *e.g.*, Coleridge, "The Poacher's Judge" of an Early Victorian Lincolnshire ballad; Monahan, C.J., in Mid-Victorian Ireland; and Gorrie, C.J., in Later Victorian Fiji and Trinidad.

(*b*) *Respectus Personarum* is Canine Latin: neither Classical, nor Jural, nor Patristic, nor even Scholastic. The Vulgate always uses *Acceptio;* but in modern editions (from 1624) *Respectus* appears in the headlines of the second chapter in the *Epistle of James*, as well as the nineteenth chapter of *Leviticus*. It seems to have been borrowed from the *Notationes in Scripturam* of the Casuist Emmanuel Saa (1598), which are appended to the chapters of the Antwerp (Plantin) Vulgate of 1624. His use of the word, however, is not honorific. The division into chapters and verses is itself no older than Archbishop Stephen Langton (†1228). *Respectus* does not appear in the many elaborate Indices of Migne's *Patrologia Latina;*[31] and the only reference there

[31] See, however, vol. cxix., p. 518: "Reddite potius Deo vota vestra, xxx in quo absque *respectu* dignitatum aut *personarum*, unusquisque recipiet quod meretur". It occurs in Epistle 53 of Abbot Servatus Lupus († 862), the ally of Gottschalk in regard to Predestination of Damnation; and was addressed to the Emperor Charles the Bald.

given is one to Augustine: *Contra Duas Epistolas Pelagianorum*, II., 7 (13). Augustine's words closely resemble those of the Levitical command. *Acceptio* is likewise the word used by Thomas Aquinas, late in the Thirteenth Century: *S.T.*, I.-II., Q. 97, A. 4, and II.-II., Q. 63, A. 1. His discussion of the matter may be studied by the English reader in Rickaby's *Aquinas Ethicus* (I., 299-300, and II., 34-38). The modern Jesuit translator of the Angelic Doctor has adopted the English Protestant mistranslation of *Acceptio*, probably because it has become part of the current English language. Compare Duns Scotus: "Personarum acceptio non est, nisi adsit ratio debiti:" *Opus Oxon.*, I., D. 41, Q. 1 (14).

(*c*) The first appearance of the phrase in English was due to Bishop Coverdale in 1535. He translated *Proverbs* xxiv. 23: "It is not good to have respect of any persoune in judgement: (Cognoscere personam in judicio non est bonum)". In the Great Bible of 1539 we find: "There is no respecte of parsones with God": *Romans* ii. 11. Tyndale in 1526 had more faithfully rendered the sense of the similar passage in *Acts* x. 34: "Non est personarum acceptor Deus": by "God is not parciall". But there is no reason to suppose that Coverdale, any more than the subsequent "Authorised" Translators, intended anything like the modern Democratic refusal of honour to whom honour is due. That began with a Puritan perversion of their meaning. They used *Respect*, not in the honorific sense, but in the primary simple perceptive sense, surviving in such prepositional forms, as *respecting*, and *in respect of*, and *with respect to*. The envious abuse of *Respectus Personarum* was unknown to Ducange; as well as to Gratian of Bologna and other compilers of the Canon Law. The twelfth of the *Regulae Juris* appended to the *L. Sexti Decret.*, V., Title 12, runs thus: "In judicio non est acceptio personarum habenda"; and there is no other reference to the matter in the *C. J. Canonici*. The Casuists use the same (or some similar) formula. See in particular Laymann: *Theol. Mor.*, IV., 15 (6): "Peccatum acceptionis personarum non committitur, nisi antecedat aliquod debitum justitiae". And compare Hobbes (*Leviathan*, I., 15) on *Acception of Persons*, as the conduct of an Arbitrator, who is "partiall in judgement": and who acts on first appearance instead of final probability.

(*d*) *Respectus* (honoris causa) is not to be found in the *Corpus Juris Civilis*;[32] which gives no countenance to the

[32] The prepositional *Respectu Personarum* occurs: *e.g.*, *Digest*, XVI., T. 3, Fr. 31, § 1. It was also a common Scholastic phrase, meaning

fustian of the Old Bailey. On the contrary we find approval of *Reverentia personarum* in the *Digest*, under the Title *De Testibus* (XXII., 5, Fr. 3, §§ 5 and 6, Callistratus). The *condicio* of the witness must be "explored," and the *Decurio* must outweigh the *Plebeius*. "Testimonia non sunt numeranda sed ponderanda," by every court that knows its business and does its duty. As any just judge would say in the Twentieth Century: "The word of Lord Roberts must count for more, than the oaths of all the canteen-sergeants who ever took tips from an Army-Contractor". The Canon Law was identical with the Roman Civil in doctrine and practice. Innocent III. declared, A.D. 1205: "Ad multitudinem tantum respicere non oportet, sed ad testium qualitatem": *Decretal.* (Greg. IX.), II., *Tit.* 28 (De Testibus), *cap.* 32. And Reiffenstuel, commenting on this chapter, closely follows the words of the *Digest* to which he refers: "Judex *ex officio suo* debat inquirere de conditione testium. . . . Interrogatoria generalia, statum et conditionem ipsorum concernentia": *Jus Canonicum Universum* (1700), *Tom.* II., p. 264. But Van Espen strangely ignores the matter in his *Jus Ecclesiasticum Universum* (also A.D. 1700): except for a slight allusion in Part III., Title 7, ch. VI., § 51.

13. If Personality be a matter of Degree, as Canon Rashdall admits (in *Personal Idealism*, 374), Respect of Persons (*honoris causa*) must be an indispensable condition of Righteousness in every department of legislation, adjudication, and administration. To assert the justice of equality in credit, courtesy, and other matters of consideration; except when all the circumstances of the two persons (or two cases) are substantially equal; is logically, to break the First Commandment. If every man be not a God; the equal of Jehovah: men must be unequal *inter se;* like the individuals of every other genus of Jehovah's creatures, from ants to angels. Nobody ever says that all dogs are equal, or that one horse is as good as another. Any dealer, who did so, would soon have no customers but expectant cheats. And yet, their differences are far slighter than the difference between the highest man and the lowest.

(*b*) "Equality before the Law" of Man is an obvious systematic outrage on the Equity of God. For, if equals be added to unequals, the wholes are unequal. "Personarum acceptio": said Melanchthon (*Ep. Coloss. Arg.*): "est dare

"Concerning Persons": *e.g.*, Durand, *In SS.*, I., D. 34 (3). Henry of Ghent regularly uses the phrase: "Relatio *sive* Respectus": in his *Quodlibeta*, VII., Q. 2.

inaequalia aequalibus, *aut aequalia inaequalibus*". Ulpian said, "Suum cuique," not *idem cuique;* because everybody's (divine ideal) due is different from that of everybody else. No two *Individua sensitiva*, and no two cases of practical controversy, can be exactly alike to the eye of Omniscience. Man's use of the General Concept and other brain-tools is not a stamp of dignity, but a consequence of limitations. Anthropomorphism never ran riot more absurdly than in the topsy-turvy phantasy of Averroes and Avicenna, that Allah knows nothing but Universals, and takes no cognition of Particulars.[33] God has no need of principles, though framing some for our guidance. We, with our feeble and uncertain intellectual penetration, cannot always reach the divine ideal of Justice on the Case; and are forced to classify, in order to get a fair tale of work done within our limits of time and strength. But that incapacity is no excuse for not trying to get as near as we can; by supplementing well-tested, progressively improved, and mutually corrective standards of grouping, with keen individual observation, whenever the equities of time and cost will permit.

(*c*) Perfect equality, as Hume has pointed out (*Human Nature*, I., 2, § 4): "is a mere fiction of the mind, and useless as well as incomprehensible". And "we can never say, except at a risk, that two actual things are equivalent": declares Alfred Sidgwick; the most penetrating and clarifying writer on Logic since William of Ockham; in his *Use of Words in Reasoning*, 22. "The single cells, which make up the organs of the individuals of a species, have a different position and

[33] Plato seems to affiliate this wind-egg on Parmenides. See his *Parmenides*, 134. Moses Maimonides adopted the Arabian ineptitude, with a modification in favour of particulars of the Universal *Homo: Guide to the Perplexed*, Part III., ch. xvii., p. 286, in Friedlander's Translation. For Avicenna and Averroes, see Stockl's *History of Philosophy*, § 83 (24), and § 84 (10). In § 127 (2 and 3) he notes the very similar view of Henry of Ghent, who will not admit any distinct idea of an individual in the mind of God: the *Species Specialissima* (or *Infima*) being His lowest object of cognition: *Quodlibeta*, VII., Q. 1, foot of folio 386*d*. Compare De Wulf's *Mediæval Philosophy*, § 324; and *Philosophie Scholastique dans les Pays Bas*, ch. iii., § 5 (p. 204) and § 6 (p. 236). For the Pragmatic view, see Schiller's *Humanism*, ch. vii. (Reality and Idealism), p. 126: "If we are to hazard any assertions concerning Omniscience, is it not clear that it could have no use for universals". And compare Hamilton's successor: A. C. Fraser, in his *Biographia Philosophica*, v. 201: "Evolution of conclusions from premises . . . was a mark of limited intelligence and experience. . . . Divine Intelligence does not need to syllogise or generalise". In this matter at least, both are Occamists. "Non intelligit Deus alique a se per ideas, quod ideae nec movent intellectum divinum, nec sunt intellectus ipse, nec objectum medium inter Deum et alia a se cognita" wrote the Singular and Invincible Doctor: *In Sententias*, I., D 35, Q 5 (*Conclusio* 7).

size in each individual": says the exact and Empeiric Hans Driesch, in his *Problem of Individuality* (65). No two men, as a matter of fact, ever have been, or ever will be exactly equal; and the difference between (let us say) a typical Canon of Christchurch, and a typical Jingo Bully, is far greater than the difference between the Jingo and a Blue-nosed Baboon. All Justice is a matter of Proportion and Degree: as Aristotle forever established in his *N. Ethics* (V., 6 and 7). But Equality is the negative of Proportion as well as Gradation. And therefore, in a world of multiform actual inequalities, Equality is the greatest enemy of Equity, if not the very Essence of Iniquity. Roman *Aequitas*, like the Greek *Epieikeia*, did not mean forced uniformity, but the restoration of a disturbed balance of established Proportion. The Puritan Sham-Sin of "Respect of Persons" is only the latter-day trap-cant, of the primal and primatial Sin of Anthropolatry. The Lust of Equality, not the love of money, is the taproot of evil. Eve and Adam were not tempted with gold, or gems, or any pleasure of sense. "Ye shall be as Gods": said the Serpent; and the bait was swallowed.

IV.—TIME AS SUCCESSION.

By J. C. Wordsworth.

Discussions about the nature of time have held a leading place in the philosophy of recent years, and there can, of course, be no doubt to whose writings they owe their prominence to-day. It is not, however, with Prof. Bergson's theories that the present paper will be concerned, but with a side of the question which has not, so far as I am aware, had any considerable share of attention bestowed on it before. The main problem to be dealt with has, it is true, been raised innumerable times already, but the arguments by which we shall reach our conclusion are perhaps as new as anything can be that has to do with a subject handled so often before

It may be as well to state this conclusion briefly at the outset. If our reasoning is correct, the moments of time are not successive, any more than the parts of space, and the terms "past" and "future" have no more claim to absolute truth than the terms "above" and "beneath". To summarise the arguments for this as shortly as possible, the first may be drawn from the idea of succession itself. It belongs to the very essence of a successive series, *e.g.* the series of numbers, that each member of it should be of a higher value than those that precede, and include them in itself; but this is not so with time, the parts of which are units identical in value and for that reason cannot be successive. Each exists by itself, and has nothing in it to determine the time on either side of it as past or future. To avoid this difficulty we may take up the idea that the present includes the past, but we shall find this impossible to maintain, though it is necessary for, and involved in, the ordinary view of time. Another argument will be drawn from the difficulty of defining what is meant by such terms as "now" or "the present"; if unextended the "now" cannot be anything at all, but if it has extension it must exist in a single block, which contradicts the usual notion of time, and it will be impossible, besides, to limit its extent. And lastly it will be shown that our idea of time as a successive series is due to a misconception caused by memory, that is to say, by the fact that together with the

present sensation there exist impressions of events belonging to another time which we call "past". The presence in our minds of this background of other impressions co-existing with the present sensation makes us create a similar background of events co-existing in a wider "now" with the present moment; and this background is what we mean by "the past". But we have no real right to create this idea; we only do so because we have impressions of events on one side of the present and not of events on the other, a circumstance which is not due to any pre-existence of the events we "remember," but could come to pass just as easily if time were merely a line of events without any "earlier" or "later," as on our theory it must be.

If the moments of time are to be successive each of them will have to include all that went before it, on the analogy of number, the series which serves as a model for every other. Each "now" will have two meanings; it may be considered as merely the present moment, or as the whole of the past with the present moment for its limit, just as the number "eight," for instance, may mean either the sum of eight units or the final unit in that sum. So that in order to form any conception of time as succession we have to represent the past as still existing, though existing in the rear. And this is what we actually do, however unconsciously; we picture the past to ourselves as a space filled up with existence, while the future appears as a mere blank. We imagine time as a continually extending line, not observing that this involves the permanent existence of the past, distinguishing it from the future. Unless we had the past in our minds at the same time as the present we could never form the ordinary idea of time as succession, and unless the past co-exists with the present the moments or parts of time cannot be successive. The usual idea of time does logically involve the eternal existence of the past in the rear of its moving limit, the present moment. To say that a past event exists no longer only implies that we think of it as having its existence fixed in length, not extending like the events "going on" in the present. The later time must be considered as an addition to, not as annihilating, the earlier; it must increase the length of time, which would otherwise be not an ever-growing line but a stationary point. The past must remain, if time is to be successive, and must continually add to itself an ever new present; for how otherwise could the present be considered as added to the time on one side of it rather than to that on the other, if both were equally non-existent?

To put it in another way, we can only give any event a

number in the time series because we have impressions of other events in our minds, to which we can add it. It gets its rank in the series, for us, by standing as it were on the top of the others. If the different phases of the universe are to have an order, the universe itself must have something corresponding to memory; it can only give a number in the series to the present event by keeping the past, on the top of which the present may stand. If the past were not so retained, why should the present receive its rank in the series from the time on one side rather than from that on the other, when on each side there would be a mere blank? It could not do so, any more than it could receive a similar numerical rank from us if we had no memory. Without memory one event could not appear to us to come after others, and without the retention of the past one event could not in reality come after others.

On the other hand, if each of the two times A and B exists by itself, and one is not when the other is, we shall have to ask what ground there is for applying the terms "earlier" and "later" to them any more than to two spaces, each of which is not where the other is. We must give some reason for treating them in a different way from the parts of space, where there is no irreversible order. They have not the words "earlier" and "later" written on them, nor are they numbered in themselves, whatever numerical value we may give them. No part of time has anything in it to make the time on one side of it past and that on the other future; each exists by itself, and cannot qualify any other part as time that "has been" or time that "will be". Certain events may be at a shorter or longer distance from the present, but the present cannot determine them as either past or future; it cannot decide anything about them, nor have we, standing at the present moment, any ground for determining anything about them, except that they do not exist at the point when the present itself does.

It will not help us, either, to say that there is a movement from one part of time to another, for to say this is simply to repeat, in different words, that one is earlier and the other later, without giving any reason for calling them so. You may suppose movement to be a simple idea or intuition, not requiring to be further defined; but surely it does require further definition, for how does a movement differ from a line in space, if the moment at the end of it does not retain all the others along with itself? A movement seems to imply a progress, and what progress can there be if what we call the last is no greater than the first, if that which moves is no

more at the end than at start? The movement may in that case be taken equally well in the reverse order, like a line in space, for what we call the end is in no way different from the supposed beginning.

Besides, no one can suppose that he would have any "simple idea or intuition" of movement or succession in time unless he retained the past in his memory, for he could not perceive one part of time to be later than another, unless that other were also present to his mind. We think that we "have" just walked from one point to another on our way to a third, but that is simply because we have in our minds a still vivid image of this walking; without that, even if you suppose a sense of motion to be still possible, we should certainly not be able to perceive in which direction it was. And in that case could there really be any sense or idea of motion at all? If, then, memory is necessary for the idea of motion, the permanence of the past would in the same way be necessary for the reality of motion; otherwise there would be no ground for taking the motion in one direction rather than in the other.

It may be said that we have a direct perception of change in the world, and that this gives us succession in time. But the idea of change is itself formed from, and depends on, that of time as succession, and if the latter is proved false the former must also fall to the ground. At any moment, besides the present sensation, we have a background of other impressions more or less faint, some of them representing the same objects as are brought before us in the present sensation; and it is the contrast between the pictures given us by the present sensation and these other impressions that produces the notion of a change. But unless we had the impression of the "former" state of the thing now, simultaneously with our impression of its present state, any perception of change would be impossible. To put it in another way, the idea of change is produced by the contrast, not between two sensations occurring at two different times, but between a sensation and a memory that exist together. This being so, have we any right to say that the fainter impression represents a state that is "past" rather than "future"? We know that that state exists somewhere in time, at some point other than the present, just as we know that a fainter object in space is somewhere at a distance from the place where we stand. But we should not be justified in inferring any more, or in calling one state "earlier" and the other "later".

We say that the time on one side of the present is past and the other future, neither of these having any existence now.

But in that case, if they are alike non-existent, how are we to distinguish which is past and which future? What distinction can there be between two nonentities? And what prevents us from taking the course of time in the reverse order to that which we usually attribute to it? The answer to this will probably be that memory determines for us which is past, that there are in our minds traces of the time on one side and none of that on the other. But would time exist any the less if there were no memory? If it would exist just as much in that case, then it cannot be memory that makes the distinction for the world, though it may for our minds. There are, it is true, traces of what we call the past in the world now as well as in the memory, but these traces are not inevitable and universal enough to make distinctions in an universal entity like time.

Supposing there were but two moving bodies in the world, and these met but once in the whole of time and exchanged their motions; time would exist just as much in that case, but can we say that at any moment in the time on either side of the moment of contact either of the moving bodies would bear traces of its existence on the other side? At no point on either side would they carry any indication of their existence on the other; in whichever order you took the two times you might equally well take them in the reverse order, and the position of affairs on either side might equally be cause or effect. We cannot, then, say that there would be any trace here to distinguish past and future; these distinctions would not exist, and time would be like a line in space. But the whole history of the world, memory included, is, according to what seems the most coherent theory, only an infinite number of simple movements such as we have supposed in the instance above. The ultimate elements of the world carry no trace of their past, and their history might be taken in either order, this way or that; and if this is so with each of them, so it must be with the whole bodies and organisms they compose, however complex these may be. The movement of the world may look irreversible, yet the movements of the atoms that compose it may be reversible enough, and bear no trace of the time on either side of the present. So that there would be nothing to make the time on one side of it past, and the whole course of the world could be taken in either order equally well. But this means that there is strictly no order, *i.e.* succession in events at all, any more than in the objects in space. For an order that is reversible cannot really be regarded as an order at all, and it is only for our convenience that we take such a series in one way rather than another.

Again, it is true that we may have in our minds at one time an image of an event belonging to another, as in memory; but there is no such trace in each of the innumerable elements that form the brain. If time is to form a successive series, and to do so always and everywhere, as of course it must if it is to do so at all, each moment must show an increase of existence, like the increase of value in the scale of numbers, on the part of every atom that exists; each moment must give in each atom an indication of its own place, its own number, in the series of moments. And this obviously could not be the case, unless the past were permanent, and so gave an increasing value in the scale to each moment in turn, by which one might be distinguished as later than another.

This theory of a permanent past would be a plausible way of defending the common idea of time as successive, but we shall see later that it cannot be accepted as sound. Equally false is the idea that causation makes the order of the world irreversible, and settles the place of each moment in that order. On the contrary, it is only because we already take events in a certain order, calling one "first" and another "second," that we find any reason for calling this "cause" and that "effect". We cannot define causation as anything but invariable sequence in time; but this sequence of events is impossible if there is nothing to make the events successive. Before we can prove causation we have first to prove succession in time.

It may be said that what we take to be the effect is always proportionate to the cause, and in this way depends on it, and is marked as effect; but in that case what we call the cause must also be proportionate to the effect, and might also be said to depend on it. We can tell from the effect what the cause is, as well as we can tell from the cause the nature of the effect. But this is to say that either event may be taken as cause or effect, and that neither has a greater right than the other to be considered as cause. It would be impossible to imagine any law of causality which might not be taken the other way round. The motions of two moving bodies "after" their contact might be the effect of their "previous" velocities, but they might equally well be their cause. It is only because we already talk of "after" and "previous," implying that these two motions are earlier and those two later, that we call these the cause and those the effect. There is nothing in the motions themselves to decide which is which. But if, as we said, the order of the world might equally well be taken the other way round, so might

the supposed series of causes and effects. In fact the category of cause and effect breaks down altogether, and must be exchanged for that of reciprocal relation; the connexion of two events in time might best be compared to two objects adjoining in space, and standing in a certain proportion to one another.

We imagine, perhaps, that it is only owing to causation that events have any inter-connexion, and that unless one came first and another second there could be no relation or proportion. One must precede the other, we say, in order to determine the other's nature; if they were ranged in a line, like things in space, none could influence any other. But how should priority in time help this event to determine the nature of that? When the later event takes place the former is past, and the past is said to be non-existent. A is considered to be as much non-existent when B occurs as B was when A occurred; and if this is so, how can it have any influence on B, any more than B can have on A? Priority in time would not give the events any inter-connexion which they would not equally have if they were ranged in a line like objects in space, without any "first" or "second". The truth is that, without perceiving it, we represent A as still existing when B occurs; that is, we unconsciously hold the theory already described, that the past remains and continually adds the present to itself.

But this theory, as we said at the beginning, cannot be accepted as sound. In the first place, we could not say on which side of the present the past really lay; for since we can take the order of events either way, we might suppose that what we call the future is really the past that remains, and that there are continually added to it the events we now call past. In memory we do not actually see the past, but only have impressions of events belonging to the time on one side of the present; and since we have no ground for taking any movement or state of things to be effect rather than cause, we might suppose our memory to be cause of the "past" and not effect. We might suppose the events of which our minds contain impressions to be yet to come. However difficult it may be to realise this, it should not appear stranger than the equally true statement we might make about space, *e.g.*, that the sky we see might be taken to lie beneath the earth. For the distinctions of "past" and "future" in time are no more absolute than those of "above" and "beneath" in space; it is only relatively to us that they have any existence.

We should not, then, be able to say on which side of the

present lay the eternal past, since we can never actually see this, and memory cannot tell us. And in any case the past, if it lay on one side of the present moment, could not be said to exist now in any sense in which the future could not equally well be said to do so. In order to represent time as successive we have to represent the space on one side of the present as filled up, and that on the other as blank; but even then we imagine the space where the future will be as already existing. If our argument is correct, the idea of a past and future is merely an error due to the fact that we have in our minds impressions of the events belonging to the time on one side only of the present. We have, therefore, no need to defend it by maintaining that the so-called past exists now in any sense in which the time we call future does not.

We are thus brought to the conclusion that time is not successive, and that the distinctions of past and future are not absolute. The objections to such a theory are chiefly due to the belief that if events are not successive they must all exist at the same time. But the parts of space, though not successive, do not therefore coincide: nor need the parts of time be simultaneous because there is no first or second among them. It would, however, be certainly true in a sense to say that all events exist now, for we may give the word "now" as wide a meaning as we please. And it is from the consideration of what is meant by this word that we may derive our second argument for the theory here stated.

When we attempt to define the term "now" it soon becomes clear that if we take time to be successive it is altogether meaningless. If we say that neither past nor future exist, what time is it that lies between them and is? We speak of the "present moment," but if this moment is unextended it is nothing; like a point in space it is a mere name, and can have nothing corresponding to it in reality. So time will continually consist wholly of past and future, neither of which exists. But as this is obviously impossible, the "now" must have a certain extent. And it must exist all together and in a block; we cannot say that it never is but only becomes, for this becoming would imply that part of the "now" is past and part future, and if these are to be supposed non-existent we have to find a second "now" within the first, the same difficulty arising again. Or if to "become" means partly to be and partly not, we may ask what part of the "now" really is; and this can only be that part which is past. Becoming, like movement, can only be

represented as a continually extending line, not as a moving point, for a point, as we said, cannot exist or even be imagined.

But according to the common conception of it time must always consist of two non-entities, past and future, to which the whole of it belongs; the whole, for even of the present time one half is looked upon as past, and therefore non-existent, the other as future, and therefore equally non-existent. But there must be some "now" if only to enable us to say that the past and future do not exist in it. Even in saying that the world is not, but only becomes, we cannot help using the present tense, whatever verb we use. And the present tense implies a time which is neither past nor future, a time which must be extended, to be anything at all, and cannot consist of two non-existent halves.

The "now" must exist all together and have a certain extent, but how far are we to say it extends? It can cover an indefinite length, any time, in fact, which can be considered as one and combined in one thought. And we can regard as one any time that is in any respect the same throughout its whole extent. We have, indeed, no reason for stopping short of the whole of time, for, as time, it is the same throughout, its parts forming a single length.

We apply the term now to such different lengths of time as the present minute or the present age, to any period, in fact, in which we ourselves are interested, to any part of our life or to the whole. But it must be some part of our life that presents the same characteristics, and can be regarded as one and the same throughout in some respect, such as occupation in the same work. If we apply it to the whole of our life it is because this too can be regarded as the same in respect of living in general, as opposed to some particular manner or stage of living. But each man's life is in some respects uniform with, and indistinguishable from, the life of his age, and the whole course of the world; and to these latter also, as presenting the same characteristics throughout, the term "now" may be applied. In so far as he is differentiated from these "now" will mean, for him, only the period of his life; in so far as he is one with them it will mean for him the whole of the age he lives in, or the whole of time.

To come to our third argument, the reason why we imagine part of time to be past and part future is easy to find. It lies simply in the fact of memory, *i.e.*, in the fact that our minds contain impressions of the events on one side of the present, and none of the time on the other side. And we naturally

suppose that the long line of events our memory contains must exist somewhere now, just as much as the events of which we are receiving impressions at this moment; they must exist on one side of the present, fill up the space on one side, so that what now exists is not merely the present moment, but a long line of events with the present at one end. It is in this way that we get the two meanings of "the present" which are involved in the common idea of time; we are obliged to think of the past as somehow existing now—unlike the future—yet not as existing in the same way as the present moment. And the fainter the impression is in our minds, the further behind us do we place the event that is its cause, just as we do in the case of distance, which serves us as a model in constructing the idea of the past. On the other hand, we have no representations in our minds of events on the other side of the present moment, and do not suppose any such events to exist in any sense now; but we remember a time when our minds contained no impression of the events that are happening at the present moment, and as the present has been added to the past, so we conclude that a further time will be added to the present.

In thinking of the past we gather the whole of it, together with the present, in a single thought, a single representation; we imagine it as a line, stretched out to an indefinite length in one direction, and having the present at this end, while we regard time as its continual extension in the other direction. But in so representing the past we represent it as existing all together; the act of representation is one, and therefore the parts must all exist at once. The whole past thus becomes a single "now," with the present moment at one end of it. As our representation of events on this side is simultaneous it can naturally be only a symbol of real time, and the idea of succession arises from a confusion between this symbol and the reality. We represent what we call the past figuratively, all at once and in one image, and so spatialise it—for we can only conceive it so under the form of space—but in order to represent to ourselves the time we call future we have to experience it actually, in a series of different acts of thought occurring in real time. The first we picture to ourselves in one moment, in a spatial image, a line: it is like a number taken together as one whole. But to give ourselves an idea of the second we have to experience several moments of real time, like a series of separate units. Thus we treat the two sides of the present differently, the one we call past being, as we said, taken all together as a single "now".

It is only the events on one side of the present that we figure to ourselves as a line, since we have no idea of anything on the other side. Yet if both sides were equally non-existent, as they are generally said to be, we ought either to refrain from making the line at all, or else to complete it by setting the other series of events on the other side. By making it consist only of that side we call the past we are really saying that the past is and that the future is not; we have no other justification for treating the two sides differently. But if we did complete the line, or refrained from making it at all, in either case we could have no idea of movement or succession, since this can only be represented as a line continually extending and never complete.

The usual theory of time does not allow the past to exist any more than the future; there is, therefore, no reason why the one should be represented now, as in memory, any more than the other. It may be suggested that the past is "cause" of the present, and that a cause is always resembled by its effect, but the converse of this last must be equally true; and besides, the resemblance of effect to cause does not mean that the effect contains along with itself a miniature of the cause, but rather that the two are proportionate to one another. It must be purely a matter of chance that we have representations of the past and not of the future, memory and not foresight. Yet we do not regard it as a matter of chance; the representation of the past seems natural enough, while that of the future seems contrary to nature. And the reason why the former seems natural is this, that it is the very representation in our minds of one side of time that produces the idea of a "past"; it is not the fact of a "past" that produces this representation, for, as we have seen, on the usual theory of time there is no more reason why the past should be represented than the future. The very existence in our minds of impressions of events on one side of the present makes us call these events "the past"; for such events seem to exist, but at a distance from the present, like objects in space, the images of which are more or less faint in proportion to the distance of the objects from the spot where we are standing. The events exist, but at a distance from the present moment; and that is just what we mean by the past. And it is only after forming the idea of "the past" that we can form the idea of "the future".

We thus come to the conclusion that memory alone creates for us the idea of a "past," and that the distinction between past and future is no more real than that of "above" and

"beneath" in space. It is certainly more deeply rooted in the human mind, and the illusion is harder to destroy, but a very little reflexion might lead one to expect that after the distinctions made in space were shown to be purely relative those made in time would be shown to be so too. The result we have reached possesses more than a theoretical interest, for if we no longer believe one half of time to be past and the other future we shall not consider that the only value of the one consists in its effect on the present, or that the present exists only for the sake of a time which is supposed to be yet to come. One moment cannot have any precedence over or cancel another, and we have no reason for saying of any event that it exists no longer; it would be truer to say that all parts of time are parts of an eternal "now," and that we cannot fix any limits to the present or exclude from it any part of what we wrongly call "the past" and "the future".

V.—IS BERGSON'S PHILOSOPHY MONISTIC?

By S. Radhakrishnan.

The main tendency of Bergson's philosophy is monistic, for according to him there is a universal principle, spiritual in nature, in which all existence is gathered, an initial psychical movement which is responsible for the whole evolution. Creative evolution may be literally compared to the spreading of different branches from a single root. The *elan vital* goes on spreading new branches, creating new novelties. Matter, life, consciousness are such branches. They are the divergent developments of the unity at the start, where the different tendencies are fused into one. "Evolution arises from an original identity." "Evolutionary process, spraying out like a sheaf, sunders in proportion to their simultaneous growth, terms which at first completed each other so well that they coalesced" (*Creative Evolution*, p. 124). All life is a unity and the unity is derived from the initial impetus. A single principle of creation is at the base of things (*C. E.*, p. 291). While thus Bergson's aim as well as the main tendency of his philosophy is monistic, in the detailed development of his view he posits the existence of a second factor, matter, which is indispensable for both the origin and continuance of evolution. "When a shell bursts, the particular way it breaks is explained both by the explosive force of the powder it contains, and by the resistance of the metal. So of the way life breaks into individuals and species. It depends, we think, on two series of causes: the resistance life meets from inert matter, and the explosive force which life bears within itself" (*C. E.*, p. 103, see also p. 134). The presence of the resisting force of the matter is needed to start and maintain the evolutionary process. Without matter to call forth the activity of the *elan*, the latter will be reduced to the level of Spinoza's Substance, inert, static, and incapable of moving into the world of sense-perception. The vital impulse is regarded by Bergson as an effort. It meets with the obstacle of matter at the outset of its course. Its mission is to graft on the necessity of physical forces the greatest

possible amount of indetermination. To cope with the physical necessity it requires energy, which it cannot create. It makes use of the pre-existing energy at its disposal (see *C. E.*, p. 121). The two, life and matter, through their interaction, create the universe with all its varieties. Matter appears to be quite as original and fundamental for the world process as the life principle itself. If this is the conclusion of Bergson's philosophy he is not a monist but a dualist. It is this question of the ultimate unity or duality of life and matter we here propose to discuss.

I.

In *Time and Free-will*, Bergson vindicates the freedom of human consciousness. He points out how determinism distorts the flowing life of consciousness by spatialising it and representing it as a succession of states. The illusion of necessity is due to intellect, which twists out of its shape duration or the real inwardness of conscious life. "Pure duration is the form which the succession of our conscious states assumes when our ego lets itself *live*, when it refrains from separating its present state from its former states" (*T. and F. W.*, p. 100). Conscious life and inert matter have opposed characteristics. The mechanical ideal may be adequate to the representation of external reality which is spatial and solid, but it is inadequate to that of life or consciousness which is duration. Life is dynamic while matter is static. In *Time and Free-will*, the dualism or the opposition between the two, matter and life, space and time, mechanism and dynamism is the most prominent feature. We have a real material world with a multiplicity of objects, a world of space quantity and simultaneity; opposed to it there is a world of change, quality and succession. "Within our ego, there is succession without mutual externality; outside the ego is pure space, mutual externality without succession. . . . There is a real space without duration in which phenomena appear and disappear simultaneously with our state of consciousness. There is a real duration, the heterogeneous moments of which permeate one another" (*T. and F. W.*, pp. 108 and 110). Bergson here affirms the separate existence of two spheres of reality, conscious life and inert matter. Intellect is viewed as giving a defective vision of conscious life though it is adequate to the representation of matter. This dualism though greatly modified still survives in *Creative Evolution*. "The human instinct feels at home among inanimate objects, more especially among solids. Our intellect

triumphs in Geometry, wherein is revealed the kinship of logical thought with unorganised matter" (*C. E.*, p. ix). Again, "For a conscious being to exist is to change . . . a material object remains as it is or else, if it changes under the influence of an external force, our idea of this change is that of a displacement of parts which themselves do not change" (*C. E.*, p. 8). A rigorous dualism between soul life which is change and material object to which change is external is set up.

II.

Soon a difficulty presents itself. How can we account for motion or change in the external world? If the world outside is purely spatial and therefore timeless, then motion becomes an illusion. If all change were psychical, then motion is not change. It is but a sum of simultaneities devoid of the very essence of change which is time. But Bergson is not prepared to say that motion outside is unreal. Movement, whatever be its nature, is "an indisputable reality" (*Matter and Memory*, p. 254). Bergson is constrained to admit that the world outside is also a becoming. Matter is a kind of motion. Modern science in its analysis of the atom into vibrations supports his view. It is not to his purpose to discuss the much-debated question of the nature of the electron. The whole is of the nature of the self. Concrete movement is "capable like consciousness of prolonging its past into the present" (*M. and M.*, p. 329). "Matter or mind, reality here appeared to us as a perpetual becoming" (*C. E.*, p. 287). That mind is change, we have direct evidence. That matter is also movement "our intellect and senses themselves would show . . . if they could obtain a direct and disinterested idea of it" (*C. E.*, p. 288). "Pure intuition, external or internal, is that of an undivided continuity. We break up this continuity into elements laid side by side, which correspond in the one case to distinct words, in the other to independent *objects*" (*M. and M.*, p. 239). Bergson forgets that the reduction of self and universe to motion knocks the bottom out of his defence of freedom in *Time and Free-will*. Freedom originally confined to human consciousness is now extended to the totality of being. "There is no reason why a duration and so a form of existence like our own should not be attributed to the system that science isolates, provided such systems are re-integrated into the whole" (*C. E.*, p. 12). The last part of this sentence suggests the reconciliation between the two views of matter, that it is an inert thing and that it

is a kind of motion. The whole is a flux. The universe endures. Duration is the "very substance of the world in which we live" (*C. E.*, p. 41). "Matter looked at as an undivided whole must be a flux rather than a thing" (*C. E.*, p. 196). For purposes of science we cut off portions of reality and view them in their isolation. Matter, as the scientist regards it, is subject to complete mechanism. For science we want repetition according to Bergson and repetition is possible only in the abstract. In the real world there is nothing fixed, no absolute rest, but all is flow, action, creative evolution. Matter as stable and solid is unreal. "All division of matter into independent bodies with absolutely determined outlines is an artificial division" (*M. and M.*, p. 259). Intellect makes sections in the continuous flow of becoming which constitutes reality, for purposes of science and action. "The distinct outlines of an object are only the design of a certain kind of influence we might exert on a certain part of space. It is the plan of our eventual actions that is sent back to our eyes as though by a mirror when we see the surfaces and edges of things. Suppress this action and with it consequently those main directions which by perception are traced out for it in the entanglement of the real, and the individuality of the body is re-absorbed in the universal interaction which, without doubt, is reality itself" (*C. E.*, p. 12). The mathematical and logical ideals are inadequate to the representation of both life and matter. Bergson does not say that matter is phenomenal in the sense that intellectual categories create matter. He only says that they misrepresent it. Matter exists independently of intellect as soul life exists. But it is in a fluid condition. Intellect cuts out cross sections of this flow, sharpens their outlines and solidifies their contents. Thus, inert matter on further analysis has become practically identical with conscious life. The real world, subjective as well as objective, is dynamic, and can be grasped only by intuition.

If we start from the side of consciousness it is possible to establish the kinship of conscious life with inert matter. In *Time and Free-will*, Bergson has admitted the possibility of treating conscious life from the static standpoint. Though the essence of conscious life is interpenetration or melting into one another, this coalescence is not always present in the same degree. "It is by no means the case that all conscious states blend with one another as rain-drops with the water of a lake. The self in so far as it has to do with a homogeneous space, develops on a kind of surface and on this surface independent growths may form and float" (*T.*

and F. W., p. 166). It is also necessary to view conscious life statically, as there is a definite relation to the objective world in all conscious states. "Every moment of consciousness is contemporaneous with a state of the external world." The distinction between subjective and objective has become so fluid that it is practically impossible to treat the one as dynamic and the other as static. "Neither is space so foreign to our nature as we imagine nor is matter so completely extended in space as our senses and intellect represent it" (*C. E.*, p. 214). "What is given are not inextensive sensations: how should they find their way back to space, choose a locality within it, and co-ordinate themselves there so as to build up an experience that is common to all men? And what is real is not extension, divided into independent parts; how being deprived of all possible relationship to our consciousness, could it unfold a series of changes of which the relations and the order exactly correspond to the relations and the order of our representations?" (*M. and M.*, p. 326). Conscious life and inert matter are both dynamic and static. Possibly, life can be understood in its essence if treated dynamically and matter statically.

It is this community of nature between matter and spirit that Bergson emphasises in his book on *Matter and Memory*. Our intellect adapted to action breaks the world into two and devises all sorts of artificial remedies to glue them together. Idealism and realism are futile attempts in that direction. If we bear in mind that the dualism is a later product, born of and bred by intellect and not primitive and radical to reality, the problem which idealism and realism attempt to solve vanishes. If by intuition we return to the whole, the false distinctions set up by conceptual analysis disappear. "The obscurity of this problem in all doctrines is due to the double antithesis which our understanding establishes between the extended and the unextended on the one side, between quality and quantity on the other" (*M. and M.*, p. 235). Our understanding "creates the opposition which it afterwards contemplates amazed" (*M. and M.*, p. 327). But in reality, the problem of perception is slurred over and not solved by Bergson. He evades it by employing the word 'image' in reference to matter. This queer usage suggests that matter is of the same essence as consciousness. But Bergson is aware that in spite of his dubious devices, the dualism persists. The very title *matter and memory* indicates the dualism, for memory is the essential function of spirit. What Bergson has actually achieved is the reduction of mind and matter to movement. They

are no more two spheres of reality but are two opposed and coexisting movements, two processes opposite in their direction. "This book affirms the reality of spirit and the reality of matter. . . . It is then frankly dualistic" (*M. and M.*, p. vii).

III.

In *Creative Evolution* the independence and self-existence of matter is a vital necessity. The account of the relation of matter to life is transferred from human life to the cosmic whole. In man, the discord between spirit and matter is all in all. Growth and development of self is due to the conquest over material obstacles which thwart the evolution of self. Without the struggle between the two, there would be no life, no change and the individual may be regarded as practically non-existent. Even so the cosmic spirit cannot move out without the resisting medium of matter. Through the interaction of the two the whole universe arises (see *C. E.*, p. 123). Again, life is an effort to insert into matter the largest possible amount of indetermination (see *C. E.*, p. 132). "I cannot regard the general evolution and progress of life in the whole of the organised world, the co-ordination and subordination of vital functions to one another in the same living being, the relations which, psychology and physiology combined, seem bound to establish between brain activity and thought in man, without arriving at this conclusion that life is an immense effort attempted by thought to obtain of matter something which matter does not wish to give it" (Report of the French Philosophical Society Meeting, 2nd May, 1901, quoted in Leroy's *A New Philosophy: Henri Bergson*, p. 97). This effort requires energy which life cannot create. "All that the effort can do is to make the best of a pre-existing energy which it finds at its disposal. Now it finds only one way of succeeding in this, *viz.*, to secure an accumulation of potential energy from matter" (*C. E.*, p. 121). "The impetus of life consists in a need of creation. It cannot create absolutely because it is confronted with matter" (*C. E.*, p. 265). Matter is thus an essential factor confronting life and provoking its activity. The very nature of the creative evolution will be inexplicable without the independent existence of matter. The evolution of life is not the realisation of a predestined plan for there are a million by-paths which end as blind alleys. "Progress is accomplished only on the two or three great lines of evolution in which forms ever more and more high appear; be-

tween these lines run a crowd of minor paths, in which on the contrary, deviations, arrests and set-backs are multiplied" (*C. E.*, pp. 109 and 110). These accidents can be accounted for only as the ways and means put forward by the creative principle to overcome the resistance of inert matter. If the resisting matter were absent, then these failures, 'deviations, arrests and set-backs,' will have to be laid at the door of the vital impulse itself. To avoid it Bergson assumes two original and ultimate principles, life and opposing it matter. When the two conflicting principles are present, the rest of the evolution of the universe is child's play to a philosopher of the brilliance of Bergson.

If Bergson's system is to be viewed as monistic, it is necessary to reduce the duality of life and matter to an ultimate unity by reducing either life to matter or matter to life or both to one common principle. We cannot reduce life to matter, for it is to assume that Bergson has written his volumes in vain. If there is one point more than another that he emphasises in his writings, it is the absurdity of mechanising life, or spatialising spirit. Can we reduce matter to life and regard it as the first effect of life's evolution? It hardly seems possible to do so for life cannot evolve until matter is present opposing it. Evolution presupposes the existence of matter. Granting that life can come out with its possibilities even without the resistance of matter, it ought to have engendered something more useful and important than sheer matter, especially in view of the fact that the evolution of life is unimpeded by any resisting influence. To imagine that the creative impulse gave birth to matter on account of its importance in the later stages of evolution is to import the anthropomorphic or finalistic tendency into Bergson's philosophy. That life should first throw out matter and then play a mimic scene opposing it and with great trouble pressing through and penetrating it, is not conceivable. We are left with the third possibility, the reduction of the two principles to one common centre. Bergson resolves the dualism by making both life and matter spring from one source. "If our analysis is correct, it is consciousness or rather supra-consciousness, that is at the origin of life. Consciousness or supra-consciousness, is the name for the rocket whose extinguished fragments fall back as matter: Consciousness again is the name for that which subsists of the rocket itself passing through the fragments and lighting them up into organisms" (*C. E.*, p. 275). Thus Bergson reduces matter and life to consciousness. All reality is spiritual. The whole is spirit. Bergson's

system is a spiritualistic monism. But there are difficulties in the way of this theory. Why should the supra-consciousness fractionate itself? Why should it break in twain? The evolution of life on this planet is due to its opposition to matter. We ask if the original supra-consciousness or ultimate spirit can evolve into life and matter without the existence of an outside extraneous force, why can we not say that even life on earth does the same? If the supra-consciousness can give out branches, can work out its evolution without any resisting medium, why should we presume that evolution of life on this planet alone requires a resisting obstacle to force it to come out with its possibilities? Evolution must be essentially the same whether it is the evolution of ultimate spirit into life and matter or the evolution of life into plants, animals, and men. Either both require resisting forces or both can dispense with them. The latter alternative does not commend itself to Bergson. So even for the evolution of the ultimate psychical something, a resisting matter is needed. We get back to the dualism of God and matter, supra-consciousness and space.

In this difficulty, Bergson makes matter a negative idea. *Matter and Memory* establishes that life and matter are two opposing movements. There are passages in *Creative Evolution* which imply the same view. "Life as a whole, from the initial impulsion that thrust it into the world, will appear as a wave which rises and which is opposed by the descending movement of matter." "Life is a movement, materiality is the inverse movement, and each of these movements is simple, the matter which forms a world being an undivided flux, and undivided also the life which runs through it, cutting out in it living being all along its track." "As the smallest grain of dust is bound up with our entire solar system, drawn along with it in that undivided movement of descent which is materiality itself, so all organised beings from the humblest to the highest, from the first origins of life to the time in which we are, and in all places and in all times, do but evidence a single impulsion, the inverse of the movement of matter and in itself indivisible" (*C. E.*, chap. iii.). So long as there are two distinct movements, Bergson is not a monist. But he soon makes out that one of these movements is real and the other phenomenal. Matter is not an independent movement but only the inverse of the ascending movement of life. "It is a descent which is only an interruption of a rise" (*C. E.*, p. 291). Matter "endures only by its connexion with that which ascends" (*C. E.*, p. 390). Reality is one continuous, creative ascending movement. Its arrest

or interruption gives us matter. Matter is thus the negation of the spiritual movement. There is only one movement and that is spiritual. Its interruption gives the inverse of it and that is matter. But we cannot understand why the ascending movement should have been interrupted at all. Why should it ever have become inverted? Why should the original jet of spiritual spray suddenly get solidified into matter? To these questions, Bergson has no answer. He does not give us a satisfactory account of how, out of the original psychic force, matter comes. It is not open to Bergson to argue that matter is only a negative idea, a shadow and not a reality, for Bergson's view of negation compels him to consider matter not a pseudo idea but a definite somewhat. Vital order and geometrical order are opposed, but geometrical order is not a mere nothing. There is no such thing as absence of order. Were it not something positive, it cannot serve the purpose of interrupting the rise of life. It cannot occasion the activity of life. So matter is a kind of being and not non-being. It is different from the being of creative activity, but it is not an illusion. But our difficulty is, how can a mere interruption of a positive process create another positive process, though of an inverse order?

In chapter iii., *Creative Evolution*, Bergson urges that intellectuality and materiality rise together. The genesis of intellect and the genesis of matter are correlative (*C. E.*, p. 196). "It is the same inversion of the same movement which creates at once the intellectuality of mind and the materiality of things" (*C. E.*, p. 217). But if matter takes its rise along with intellect at a comparatively late stage of evolution, then it should have been non-existent in the pre-human, *i.e.*, the plant and the animal stages of evolution. But Bergson is emphatic that life even in its origins found matter confronting it. How then can matter which is due to the intellect precede intellect itself? How can matter both have a beginning prior to evolution to set it going and be itself a late product thereof? We have also two views of intellect as we have of matter. Bergson holds that intellect is the interruption of intuition as matter is the interruption of life. But there are passages where he makes out that intellect is something essential to and immanent in the evolutionary movement. It is contained in the *elan vital* as much as instinct and intuition. Development of the *elan* has been along divergent lines and intellect is the end of one line of development. Evolution has taken place on three different lines, the line of automatism exhibited in plants, the line of instinct in Hymenoptera, and the line of intelligence in

man. The primal impulse should have had in it the promise and potency of these divergent lines. Intellect then is not an interruption or an arrest, but a definite possibility of the *elan* produced at one stage in its onward and upward course. It is one of the products of the creative impulse (*C. E.*, p. 110). It is created by life. It is hard to comprehend how intellect can be both a primal tendency of life as well as an interruption of it. If intellect is something positive, even so is matter; if it is only an interruption, then matter is only that.

IV.

Bergson's account of matter is riddled with inconsistencies and contradictions. Throughout the course of life the dualism is kept up, though Bergson has faith in ultimate unity. The difficulties we have raised in this discussion will perhaps be brushed aside by Bergson as purely imaginary ones, due to an abstract and vicious intellectualism. If we only rise to intuition and grasp things as they are, then the difficulties disappear. If we think into things, then our thoughts become one with things and the whole reality, life as well as matter, will appear to be essentially one duration. Absolutist philosophers who make the real immutable being, find it hard to account for change; Bergson who makes the absolute duration finds it hard to account for permanence and stability. The absolutists who are mostly 'identity' philosophers reduce difference and diversity to an appearance, illusion, non-being, and irrationality. Bergson, installing himself in movement, difference, and change, disowns all permanence and identity, and dismisses them as dreams of the mind and abstractions of thought. Bergson asks us to rid ourselves of the illusions of permanence and stability by transcending intelligence and rising to intuition. This is just the discipline the absolutists set to us, if we wish to rise from the world of change to that of motionless perfection. The two, identity and difference, permanence and change, which are organically related to each other are exclusively emphasised and so caricatured. Bergson, instead of giving us a philosophical explanation of the difficulties and contradictions, exhorts us to surrender ourselves to the spontaneity of intuition. We are asked to dispense with all symbols, take shelter in faith, and in that attitude seize reality as it is. We then see God who is the centre of all things, the source of all evolution, who is unceasing freedom, activity, and creation. A cheap and facile monism indifferent to the difficulties of rational philosophy is given us.

It is hard to see how the system is really different from abstract absolutism. In both there is one essential principle from which all things originate. Spinoza's Substance is the *ens realissimum*. It is the totality of all being. So is Bergson's absolute duration. All aspects of the universe, plants, animals and human personalities take their rise from the creative principle. Even though Bergson calls the central principle duration, still he has as much difficulty as any absolutist in accounting for change. Plato's non-being necessary to account for the finite universe, is replaced by matter in Bergson's philosophy. This non-being or matter in both systems is neither ultimate, for in that case the monism is affected, nor phenomenal, illusory or Maya, for then the play of the universe cannot be accounted for. Indications of a more concrete idealism are not wanting in Bergson's philosophy. The ultimate unity is spiritual. Life and matter are assumed to have started from the same source and are recognised to be complementary to each other. They both co-operate in promoting the central identity. Life and matter are the mutual implications of the original unity. Human life suggests to us the way in which the relative oppositions between life and matter, consciousness and life, can be overcome in the higher unity. The individual is essentially a discord, he is a limitation of the *elan vital* by matter. "We are the vital current loaded with matter" (*C. E.*, p. 252). He can attain harmony and reach the point of view of God by spiritualising the human and the finite. Intuition and intellect are not two opposed methods of grasping reality, for only a comradeship between the two can help us to a knowledge of reality as it is. We may hopefully await the further development of these germs of concrete idealism in future works of Bergson.

VI.—DISCUSSIONS.

THE ARGUMENT *A FORTIORI*.

THIS discussion is assuming a very unusual character. Instead of the parties to it drifting farther and farther apart, and becoming more and more antagonistic, as happens in most discussions, the differences are narrowing and disappearing one by one, until complete harmony is in sight, if we may legitimately speak of seeing harmony. Let the galled jade wince at Dr. Schiller's and Mr. Sidgwick's contributions: my withers are unwrung. Their arguments are addressed rather to the orthodox logician than to me, and every bomb they explode in the shallow trenches of that futile person I applaud and rejoice at.

Dr. Schiller questions the use in this discussion of the words 'validity,' 'purpose of the argument,' and 'proof'. The last has not been used by me, but I will explain what I mean by the others. Of 'the notion of valid forms' Dr. Schiller says 'if it is to be taken strictly,' 'in the sense that their form guarantees actual truth to their conclusions, the validity of arguments *a fortiori* must certainly be denied'. I agree, but I have not spoken of valid forms, nor do I think this a legitimate or a customary use of the word valid. By valid I mean conclusive or incontestable. This of course means a personal attitude towards an argument or a conclusion. That conclusion is valid for me which I cannot contest, but must accept. It does not follow that it is valid for others. The conclusion that the earth is approximately globular and turns on an axis is valid for me, and for most other persons who have examined the evidence; but it is not universally valid, for some people do not accept it. An argument may be generally valid in the different sense that the conclusions to which it leads are in most cases incontestable; but it may not be universally valid, for a case may be discovered, or by a (shall I say perverted?) ingenuity invented, in which the conclusion may be contested. Such are Dr. Schiller's cases of the hand being greater than the arm, and of the Armenian cheating the Scot.

There is no need for Dr. Schiller to impress upon me that many illustrations of reasonings are not real reasonings at all, but are merely verbal forms in which various real reasonings may be expressed. My withers are unwrung. These forms,

which Mr. Russell calls propositional functions, and Dr. Schiller calls forms-for-meaning, I call arguments without a purpose. Dr. Schiller's 'relevant to the context of the actual argument' is my 'material to the purpose of the argument,' and as far as I can discover we are, except in phraseology, in perfect agreement on this matter.

I should not agree, however, and I think that on consideration Dr. Schiller will not agree that if A is greater than B, and B is greater than C, then A may not be greater than C. I admit that if the difference were only microscopical, it might be truer for some purposes to say that A is equal to C; but then none of these purposes would be the purpose for which the premisses were stated. We should have stated the premisses for one purpose and applied the conclusion to another, a most illogical proceeding. If A, B, and C are iron girders some thirty feet long, and if the purpose of comparing them is to determine whether C is long enough to bridge a gap which it is known that A will bridge, then the difference of a few 64ths of an inch between A, B, and C is, as Dr. Schiller would say, irrelevant to the context of the actual argument, or as I should say, immaterial to the purpose of the argument; and for the purpose of the argument, A, B, and C may be regarded as equal. But in such a case, the difference between A, B, and C, being immaterial to the argument, would never have got into the premisses. No engineer in his senses would have said that A was longer than B, or B longer than C: for the purpose of the argument it would not be longer. If for any purpose those few 64ths of an inch do make a difference, as they may if we are estimating the elongation of the girders by the heat of the sun, then those fractions must be stated in the premisses, and then they must appear in the conclusion. They cannot be taken into account in the conclusion unless they appear in the premisses, but if they are sufficiently material to the purpose to be stated in the premisses, they must be taken into account in the conclusion. For one purpose, A may be longer than B: for another purpose A may not be longer than B; but as it is stated in the premiss to be, so must it appear in the conclusion. We are sworn to deliver a true verdict *according to the evidence;* and we may not violate our oaths by ignoring what is in the evidence, any more than we may violate them by taking account of what we have heard out of court. If, for any purpose, A is greater than B, and B is greater than C, then for that purpose A is greater than C; and this conclusion is not in the slightest degree invalidated by the fact that for some other purpose A, B, and C may be regarded as equal. As a pragmatist, Dr. Schiller should agree.

Consequently, the difference between the valid and the invalid forms is, in my opinion, not 'that in the former case we are more prone to think of uses in which the conclusion stated is true, while in the latter we think more readily of cases in which

the conclusion is false,' but that in the former we have a purpose, and stick to it throughout the argument, while in the latter we either have no purpose, or we change our purpose in the course of the argument, or we apply our conclusion to a purpose foreign to the purpose of the argument. Such a proceeding is of the nature of a practical pun.

'The general "validity" of a form is no protection against the falsity of a conclusion drawn in it in special cases.' This is true only as long as the form is used for no purpose, or if the purpose is changed. If the form is adapted to the purpose, and the purpose is kept steadily in view and not departed from, then a form valid in one case is valid in every other in which the purpose is similar.

Mr. Alfred Sidgwick's first question knocks the breath out of me. He asks 'Are there any philosophical reasons why this solution should be considered unsatisfactory?' The solution being the complicated universal for which he is partly responsible, and which is alleged to be required to complete the *a fortiori*. I have already (No. 97, p. 86) discussed this solution at length, and given at length my reasons for considering it unsatisfactory, and hence my breathlessness at Mr. Sidgwick's question. If he had challenged my reasons, I should have been on my defence, but as he does not refer to them, presumably they have made no impression upon him. He gives me, however, an opportunity to repeat them, and I will try further on to put them so as to attract his attention.

'There is no necessary connexion between validity of form and actual truth' (Dr. Schiller); 'the habit of trying to get a single formula which shall apply equally to arguments from facts and to arguments which are only an interpretation of words' (Mr. Sidgwick). Again my withers are unwrung. The distinction between validity of form and material truth, between arguments from facts and arguments that are only interpretations of words, is one which I may fairly say I have drawn more clearly, more completely, and more often than any other writer. It is drawn in my *New Logic* with a clearness, width, and insistence which it is beyond my power to increase. It is sharply drawn and copiously stated in the Introduction, and subsequently receives the greatest possible emphasis by the devotion of a complete and separate Book to each mode of reasoning. If my courteous antagonists mean their warnings for me, I suggest that Dr. Schiller would find it equally expedient to warn Mr. Sidgwick of the futility of traditional Logic; Mr. Sidgwick would be as usefully employed in trying to convert Dr. Schiller to pragmatism; and both of them would find an occupation equally useful in trying to convert the Pope to Roman Catholicism.

Mr. Sidgwick considers that my objections to the literary form in which the alleged universal is expressed are irrelevant, and asks what philosophical weight there can be in them, what pos-

sible relevance such literary criticism can have. I submit that they are strictly and directly relevant. I submit that suitable, clear, accurate expression is the first business of the logician; and that a logician who cannot express himself suitably, clearly, and accurately has not mastered the rudiments of his art, and is advertising his own incompetence in his own business. I submit that speech is the expression of thought, and speech which is confused, obscure, entangled, or muddled faithfully reflects the thought, which also is confused, obscure, entangled and muddled. In this matter I am heretical. I will never admit that what is unintelligible is therefore to be reverenced and meekly accepted as too profound to be criticised. On the contrary, I hold that cumbrousness, confusion or obscurity in a statement raises a *primâ facie* presumption that the thought has not been worked out, and is probably erroneous; and this presumption is fully justified by experience. As an example I may adduce Mill's Canons of the Experimental Discovery of Causes. Every one can see that the third of these Canons is cumbrous, complicated, and obscure in the extreme; but it has been accepted with all the more reverence because it is unintelligible, and has been looked upon as the corner-stone of the Inductive Method. When it is carefully analysed, it is found not only to be erroneous, but to be nonsensical, and by no modification or amendment can sense be made of it. I do not say that the complicated attempts to formulate the universal result in nonsense, but I say that, generally, bad literary form means bad thinking.

Mr. Sidgwick asks me why I am surprised that the syllogistic expression of an argument is unnatural. I do not think I have expressed any surprise on such a score. I have certainly not felt any. 'The more acquaintance we have with the defects of Formal Logic, the less room is there for this surprise.' I agree with all my heart. The surprise would be if any formula of Formal Logic were susceptible of natural expression.

It is a serious irrelevance, Mr. Sidgwick says, for me to assume that because the reasons for the *a fortiori* conclusion are given in two propositions, etc., therefore they are 'the premisses'. Again I agree, but that is what they are commonly called, and sometimes one finds it expedient to bow oneself in the House of Rimmon. 'The question raised by Mr. Shelton is whether they do or do not together constitute the minor premiss only. We cannot solve this question by assuming the answer beforehand.' I agree: but I submit, in the first place, that so far from assuming the answer beforehand, I devoted a great deal of space to discussing it; and in the second place that, even if I had assumed the answer beforehand, this assumption, however illegitimate, could scarcely have been described as an irrelevance.

I am irrelevant also, I am told, in asking whether we do or do not reach a conclusion through a universal. I do not know what Mr. Sidgwick means by irrelevant, but it must have to him some

meaning very different from what it has to me. I cannot for the life of me see how it is irrelevant to ask the very question that I propose to discuss, and do, to the best of my ability, discuss.

I am charmed to find Mr. Sidgwick insisting on the difference between asserting that a conclusion *is* proved by the facts as given, and asserting that it *would be* proved if those facts were found true. This is the difference that I, too, have insisted on so strenuously in my *New Logic*, and again in the postscript to my last contribution to this discussion (No. 97). I never put a hypothetical argument of my own into categorical form, but in quoting, I am something of a purist, and in my quotations I feel bound to reproduce the *ipsissima verba* of my quotee, even if they outrage my tenderest susceptibilities. This is why I gave to formula (1) a categorical expression.

The first question in Mr. Sidgwick's final paragraph puts me in a very delicate position, for it seems to me to be founded upon that very confusion, which we agree in deprecating, between the hypothetical argument and the material argument. 'When we have a fact or facts asserted as sufficient to prove a conclusion, two questions arise before a sound decision can be reached. One is the question whether such facts are true; and the other is whether, if true, they are sufficient for proof.' So far I respectfully agree; but then Mr. Sidgwick continues, as part of the same argument, 'where a complete syllogism is set out . . . these questions refer,' etc. Here my agreement ends. Here I raise my protest. Up to this point we have been dealing with 'a fact or facts asserted' as true, and my contention is that the syllogism is powerless to cope with facts asserted as true. The syllogism is a part, a small and insignificant part, of the machinery of Inference, of the reasoning of consistency, which treats, not of facts asserted as true, but of suppositions. The categorical syllogism is, in my view, an illogical monster that exists only in the distorted imagination of misguided logicians. It is the logical Mrs. Harris, and for my part I don't believe there never was no such argument.

As long as we are using the syllogism, or any mode of inference, our arguments, as they are in fact hypothetical, ought, I contend, to be cast in hypothetical form, and to begin IF A is B, or as the case may be. Such arguments may be perfectly valid though their conclusions are untrue, nonsensical, or inconceivable. But if we are dealing with facts asserted as true, and if we desire that our conclusions shall be true in the sense of being in accordance with fact, arguments of this class are useless. If we desire to arrive at truth we must start with an assertion of truth, and our arguments must open, not with If, but with BECAUSE.

If, for any purpose, A is B, and *if*, for that purpose B is C, *then*, providing the relations signified by the copula are equivalent, the conclusion that A for that purpose is C is incontestably valid, and cannot be gainsaid. But though the conclusion follows

incontestably from the premisses, it need not be true. It may be false, absurd, nonsensical, or inconceivable. If an elephant is a triangle, and if this triangle is melodious, then an elephant is melodious. There is no flaw in this reasoning. The conclusion is incontestably valid; but whether it is true or not is no concern of the argument. In the progress of this argument we run no risks and take no chances. Its form does guarantee the validity of the conclusion, in the sense that it makes the conclusion incontestable, but the form has nothing to do with the truth of the conclusion.

If we are dealing with what is asserted as fact, and desire to arrive at truth, inference will not help us. We must now use a material argument, and must state it thus:—*Because* this A is found to be, in respects material to the argument, like B; and *because* every such B has been constantly in experience found to be C, *therefore*, provided our experiences of B's have been sufficiently numerous, we may take it that for the purpose of the argument this A also is C. In this argument we deal with facts, or with what are asserted to be facts. We appeal to experience at every step, and at every step there is a liability to error. These are the arguments in which risks are incurred and chances taken. These are the arguments whose conclusions, provided all the material conditions are satisfied, must be accepted as true. The difficulty of satisfying all the conditions may be great—it may be insuperable; but if it is surmounted, the conclusion is true. By true, I mean first that it furnishes a basis for action, and second that action based upon it never brings us up against experience that contradicts it. As a pragmatist, Dr. Schiller should agree.

Material reasoning may be invalid. The A that is so like B may after all not be like B in respects that are material to the argument. Every B may not be a C. There may be B's not C's that we have forgotten, or overlooked, or have had no chance of experiencing, and A may be one of these. Our experience of B's may be insufficient to warrant a certain conclusion. In any of these cases if we induce a certain conclusion, and look upon the conclusion as true, the reasoning is invalid. But the conclusion is not necessarily false: it may by chance be true after all. And even though all these defects may be in the premisses, the reasoning is not necessarily invalid. If we allow in the conclusion for the errors in the premisses, and state the conclusion as probable or possible, the reasoning is valid, though the conclusion may not be true. I trust these explanations will make it clear that I do not regard validity and truth as the same, and will make clear what I mean by validity and by truth.

If in the material argument the second premiss (Because every B has constantly in experience been found to be C) is called a universal, then every material argument does need a universal; but it is manifest that the experienced universal of the material argument is as different as possible from the postulated universal

of the hypothetical argument that we have been discussing, one variety of which is the *a fortiori;* and that things so widely different should scarcely be called by the same name.

Even in the hypothetical argument, of which the *a fortiori* is one variety, and the syllogism another and scarcer variety, I have no objection to the use of a universal if it is wanted; but my contention is that in many cases of these and other hypothetical arguments, no universal is wanted. Mr. Sidgwick's argument about the sides of the triangle can be conducted equally well both with and without a universal, and the detached universal to whose neatness of expression he calls my attention is never wanted and never used.

If BA and AC are two sides of a triangle, *then* BAC is longer than BC. Mr. Sidgwick says we obtain this conclusion through the universal 'any two sides of a triangle are together longer than the third side'. I deny that this universal enters into the argument. That is the plain issue between us. My contention is that as soon as I understand the premiss, and get it pictured in my mind, the conclusion is reached intuitively. I do not reach it through the neatly expressed universal. On the contrary, I reach this universal through the particular instance before me, if it is a particular instance. If I have never before seen, heard of, or imagined a triangle, I still reach the conclusion intuitively from the case before me; and if this is my first experience of a triangle, how can I have the universal already neatly expressed in my mind? But as soon as the conclusion is reached, I am in possession of the universal, and for this reason: that the premiss may be understood either particularly or universally. BA, AC, and BC may be taken for the specified sides of a particular individual or specimen triangle: but they may not be so taken. They may be taken for the sides of any triangle whatever, and if of any triangle, then of every triangle. In that case, to say that BA and AC are together longer than BC is to say that any two sides of any triangle are together greater than the third side. It is putting the same thought into different words, and you cannot prove a conclusion by restating it in different words, or by referring to a restatement of it. The neatly expressed universal 'any two sides of any triangle are together greater than the third' is explicitly universal: 'BA and AC are together greater than BC' is implicitly universal; and it is a mistake to suppose that one is more universal than the other, or that one is needed to corroborate and justify the other. 'A butterfly is an insect' is as wide a universal as 'Every butterfly is an insect,' as 'Butterflies are insects,' and as 'All butterflies are insects'. 'A butterfly' may mean a particular individual specimen of a butterfly, this very one, for instance, that is now flapping against my window; or it may mean the representative butterfly, the summarised verbal expression of all butterflies; and so it is with Mr. Sidgwick's triangle. It may be an indi-

vidual specimen of a triangle, such as I may draw on this sheet of paper, or it may be the representative triangle, and is then equivalent to every triangle. If it is an individual triangle, I want no universal. I can see for myself that this very BAC before me is longer than this BC, without mentally referring to all triangles or to any other triangle. If it is the representative triangle, then it is the universal triangle; then I am conducting my reasoning in universals; and then I have no need to state my universal twice over, or to invoke one statement of it in order to validate another. Why, even in the neat expression which Mr. Sidgwick presents to me as a universal he does not speak of all triangles, nor of every triangle; he says any two sides of *a* triangle. Very well; ABC is *a* triangle, and to say that BA, AC are together greater than BC is precisely the same as saying that two sides of a triangle are together greater than the third. The comparative neatness of the expression does not, therefore, reconcile me to the syllogistic expression of this argument. It is true that Euclid went out of his way to smooth the ice, and to prove the proposition; but he might as well have saved his breath to cool his porridge, for none of the self-evident data on which he bases his demonstration is more self-evident than his conclusion.

Jevons' suggestion to use the words *case of* is made, not in connexion with the *a fortiori*, but as a device to reduce the hypothetical to the categorical, an operation that I regard as, in the words of the prayer-book, utterly heretical and damnable. Mr. Sidgwick will find it in the Chapter on Conditional Arguments in the Lessons. In the fifth edition of 1875 it is on page 164.

Finally, let me say, in response to Mr. Sidgwick's closing sentence, that I do not agree. For reasons already given I will never agree that in any logical proposition literary defects are without logical importance. Logic is the science and art of reasoning, it is true, but as ancillary to reasoning it includes the science and art of expression. Unless thought is expressed suitably, clearly, and accurately, reasoning must be confused and imperfect; and it is easy to trace much of the confusion of thought that is rampant in logic as well as in other things to bad literary expression. I insist upon this the more strenuously because we have imported from Germany a cult of obscurity, and obscurity passes current for profundity, instead of being recognised for what it is, *viz.*, incompetence.

A reply is almost necessarily longer than the argument to which it replies, and a rejoinder longer than the reply. If I were to answer Mr. Pickard-Cambridge point by point, the Editor would use his blue pencil very freely, or I should occupy more pages of MIND than would be justifiable. Yet if I select certain arguments and confine my answer to them, it will naturally be supposed that I have selected those that are easiest to answer,

and have neglected the others because they are unanswerable. In this quandary I wrote to Mr. Pickard-Cambridge asking him to select three or four of his arguments which he considered the most destructive of my case and the strongest supports of his own, that I might restrict my reply to them. My letter did not reach its destination in time, for I have had no reply,[1] and therefore I must make my own selection from among his arguments. I select those that seem to me the most telling in his favour and against my position.

The most profitable way to approach the subject will be through the one point on which we agree. We agree that if, in the argument $A > B$, $B > C$ $\therefore A > C$, A, B, and C stand for any magnitudes of the same kind, we see directly and immediately that the premisses necessitate the conclusion; but when A, B, and C stand for individuals, Mr. Pickard-Cambridge holds that we require a universal to validate the argument: I hold that we do not, and for the following reasons:—

Imprimis, in scanning the argument and assenting to the conclusion we do not pause to consider the signification, as universal or particular, of A, B, and C. It never enters into our heads to do so. We assent at once; and, to me at least, the argument is no more conclusive in the general than in the particular, no less conclusive in the particular than in the general.

Secundo. If we arrive at the particular conclusion through the rule, how do we arrive at the rule? I submit that there are but two ways. Either we deduce our rule from some more comprehensive rule, or we arrive at it by generalisation from particular cases. If we derive the *a fortiori* from some more general rule, what is that rule? Whatever it may be—for my part I deny its existence—it must derive from one of these two sources. Either it is deduced from a rule still more general, or it is a generalisation from individual instances. Whichever is the case, the same argument applies again, and we must ultimately come to a rule which is a generalisation. From generalisation all rules are derived, either immediately or at second or third hand; and if a universal rule is valid, it can be so only because the particular instances out of which it is constructed are valid. Not until the individual instances are appreciated and found to be valid does it occur to us to formulate a rule. If I have before me an A which = B, and a B which = C, I discern at once that A must = C, and I discern this before I have any rule in my mind. It is because I discern in this case that A = C that I am able to generalise and formulate the rule that things that are equal to the same thing are equal to one another. It has happened to me, and no doubt to others, to try to drum the rule into the head of a stupid boy who cannot understand it. To drum it into his head I have been obliged to resort to an individual case. I have cut three

[1] The reply was eventually received, but unfortunately not until my MS. was despatched.

slips of paper of the same length, marked them A, B, and C, and compared them by actual apposition; and I have found that though the boy could not appreciate the general rule, he saw at once the validity of the individual instance, and from this instance he was able to construct the general rule. I do not deny that there are cases in which we deduce the individual instance from the general rule, but I deny that the *a fortiori* is such a case. It may be that from previous instances we have the rule in our minds, but in a new particular instance we do not need it and do not use it. The new instance of the *a fortiori* goes to reinforce and corroborate the rule, and widens the scope of the generalisation; but the generalisation was derived from the particular instances, and not *vice versâ*. How else can a generalisation be attained?

I freely admit that when we argue from a rule that we suppose is universal, and when it is shown that the rule is not universal, the argument is invalid; but I submit that this is not the case with the instances he adduces. 'Could we ever get beyond the deadlock in which one man says "I see such and such a conclusion emerging from these premisses" and the other says "Well, I don't"?' I do not think we could. I think the validity of the *a fortiori* is unarguable. If a disputant does not see intuitively that $A > B$, $B > C$ carries $A > C$, we must let him alone. If he does not see it, certainly no universal will enable him to see it. If we really are arguing from a general rule to a particular case, the objector has two lines of defence: 1. The case does not come under the rule; 2. The rule is invalid. If the *a fortiori* were indeed dependent on a universal, either of these defences would be open to us. As neither of them is conceivably open to us, I think we must conclude that the *a fortiori* does not depend on a universal. The first of these lines of defence has escaped Mr. Pickard-Cambridge's attention.

The argument with respect to the houses is faulty throughout, and it is no wonder that a reasoner so inefficient should come a cropper. If Peter's house is N of John's, and John's is E of Nathaniel's, it does not by any means follow, *a fortiori* or in any other way, that Peter's is N E of Nathaniel's. Mr. Pickard-Cambridge is careful not to father the argument himself, but puts it into the mouth of a friend. I think his friend has a legitimate grievance. In the circumstances supposed, it is infinity to one against Peter's house being N E of Nathaniel's. It may be at any point of the compass between N and E, or in limit, due N, as when Peter's is at the N pole, or due E, as when Peter's and John's are semi-detached, and Nathaniel's is a thousand miles away to the west. My contention is against a universal in the valid *a fortiori*: I did not contemplate such a wild creature as this.

The third of Mr. Pickard-Cambridge's arguments that I will select for rejoinder is that in which he refutes my contention that there is no universal in the *a fortiori* by showing that I

myself introduce a universal into an argument—that is not *a fortiori*. I should be reluctant to admit that the refutation is good, even if the universal that is found in my argument were what I consider a universal. I have never denied that there is a universal in some arguments, but only that there is one in the *a fortiori*; and I do not see that my argument commits logical suicide if I introduce a universal into an argument that does not pretend to be *a fortiori*. But is my second premiss a universal? Is the proposition 'Obtaining money by false pretences is cheating' a universal proposition? I do not admit that it is entitled, either in Logic or in common sense, to the distinction. In Logic, it is certainly not a universal proposition. It is indesignate. It does not say that *All* obtaining of money by false pretences is cheating, and if we are to be governed by Formal Logic, it is not a universal proposition. If Mr. Pickard-Cambridge abandons Formal Logic, I congratulate him on his escape from his Ruheleben, and welcome him to a feast of common sense; but if we are to be nourished on common sense, my premiss is still not a universal. It merely calls the same thing by another name.

I submit once more, therefore, that when it is said that the validity of the *a fortiori* rests upon a universal, the cart is put to draw the horse. When I have seen that in the cases stated, A must be greater than C, John must be taller than Nathaniel, the mongoose is quicker than a terrier, then I can generalise these instances and draw the rule of the *a fortiori*; but until I see the validity in the particular case, I cannot formulate the general rule, for there is no wider rule from which I can deduce it, and *ex nihilo nihil fit*.

Dr. Bosanquet will not think me discourteous if I postpone my reply to him to a future occasion.

CHAS. A. MERCIER.

THE NECESSITY OF A UNIVERSAL IN REASONING.

THE contributions of various writers to the last two numbers show well the diversity of opinion on this very fundamental question. The discussion having travelled far from its starting point, it is desirable for me briefly to restate the point of view I was endeavouring to put forward. This is all the more necessary because, although I am in the main in agreement with some writers (*e.g.* Mr. Pickard-Cambridge) and in disagreement with others (*e.g.* Dr. Schiller) none appear to me fully to appreciate the significance of my argument on the *a fortiori* notwithstanding the fact that Mr. Sidgwick's great technical knowledge gave me a better solution of a certain phase of the problem than I had reached myself.

In restating the argument, I propose to save space and irrelevance by making no further reference to Dr. Mercier's *New Logic*. I am of opinion that the discussion of the merits or demerits of that book can only be carried out satisfactorily in a special review or article. Moreover some other points of difference between Dr. Mercier and myself are so entangled with personal questions that I shall not attempt to disentangle them, but shall confine myself strictly to the subject under discussion.

As a reply to those who, with Dr. Mercier, deny that such an argument as the *a fortiori* does, in fact, rest upon a universal, I cannot sufficiently commend the last contribution of Mr. Pickard-Cambridge. Merely as an answer to Dr. Mercier, the further brief reply I am including in this discussion seems almost superfluous. I am including it for two reasons. The first is that Dr. Schiller claims to have discovered a certain lack of logical consistency in the view expressed by Mr. Pickard-Cambridge, and may possibly find that same inconsistency in his later essay. On this matter Mr. Pickard-Cambridge must answer for himself, but I give a further reply because I do not think that Dr. Schiller will find the same inconsistency (real or imaginary) in this discussion. The second reason is that I am here more concerned with some implications of the view that in all deduction we necessarily reason through a universal than with the view itself. My treatment leads more directly to the implications.

On the surface, the argument *a fortiori* seems as if it were an exception to the rule that deduction proceeds through a universal. To anyone unaccustomed to analyse the process of reasoning, it appears as if it followed directly from A is greater than B, B is

greater than C, therefore A is greater than C. The conclusion is so obvious that the general principle is not, and, for practical purposes, need not be explicitly stated. Nevertheless it will be readily seen that a general principle is involved in the argument. For what do A, B, and C mean? If the symbols are used in the every-day sense, the statement is meaningless. Size is not connoted by a letter of the alphabet. It will be agreed, I think, that A means *any object whatever possessing the attribute size*. To this extent, those who contend that the explicit statement of the universal in syllogistic form conveys little or nothing not already given are correct, not because a universal is an unessential part of the reasoning, but because the proposition itself can be interpreted as a universal. If we substitute for the symbols their meaning and make a very slight verbal change, our so-called argument reads as follows: Whenever a quantity (A) is greater than a second quantity (B), and the second quantity is greater than a third (C), the first quantity is greater than the third. This is the meaning of the so-called inference, and, as so interpreted, is less an inference than a statement, an explicit statement of an undoubted universal. If, on the other hand, we substitute for our symbols a concrete statement (*e.g.* a sovereign is greater than a dollar, a dollar is greater than a rupee, therefore a sovereign is greater than a rupee[1]) we are entitled to ask why the inference follows. The answer can hardly be other than because it always is so, because the relation is an invariable property, an essential attribute of all entities to which the terms greater and less can be applied. Our inference is, therefore, a particular example of a universal rule.

The above statement is only another rendering of the view expressed by Mr. Pickard-Cambridge. It differs, if at all, in one particular. Certain passages in Mr. Pickard-Cambridge's discussion read as if he contended that an unbroken succession of empirical examples suffice to establish a universal. I am not quite sure that this is Mr. Pickard-Cambridge's meaning,[2] and it is possible that he will agree with me that no universal, if stated to be universally *true*, can be established unless there is, in addition to empirical justification, some *nexus* connecting the terms which makes the relation necessary.

Whether or no Mr. Pickard-Cambridge agrees, that is the point I specially wished to emphasise in my remarks on the argument: A is next to B, B is next to C, therefore A is next but one to C. Certainly I pointed out that the term next was ambiguous, but

[1] It will be seen that several different meanings can be attached to the term greater than, and that the argument is valid for all of them. The validity of the argument is here not invalidated by some degree of ambiguity in the term, so long as the same meaning is preserved throughout.

[2] I particularly refer to passages on p. 206 (MIND, No. 102), but it seems possible that these and similar arguments are governed by the clause: "refute *or* find an exception to this rule".

my objection was more fundamental. My intention was to show that, *in whatever sense the term was used*, the argument was false, and, moreover, was false because, while like every other argument it contained an implied universal, this particular universal was false. The example is of considerable service to those who maintain that the major premise of a syllogism is the best and most convenient method of stating a universal. For the universal implied, expressed as a major premise, would read somewhat as follows: "All instances when one object (B) is in juxtaposition to two other objects (A and C) are instances when the two other objects (A and C) are not themselves in juxtaposition because of the intermission of the first object but are separated by that one object and by no other".

While, with Mr. Alfred Sidgwick, I deplore the æsthetic barbarity of so long-winded a sentence, I submit that the statement in this form does exhibit more clearly than the briefer form the error involved. The statement as made is clearly false, and it is equally clear that the universal, to be valid, requires the additional postulate that A, B and C are in a linear series. Nor, by any manner of argument, can this additional postulate be regarded as implied in those stated. In stating that A is next to B no doubt I imply that A and B are in a linear series. Of course they are. But how can I imply anything about C which is not mentioned? Similarly B and C are in a linear series. But the latter statement says nothing about A. There is therefore no means of obtaining the implication, necessary to the validity of the argument, that A, B, and C are *in the same linear series*. The argument is not merely ambiguous but false, and false because it (unconsciously) assumes a false universal. By stating the universal explicitly, the falsity is rendered apparent. What better example is possible of my contention that all deductive reasoning is through a universal and that it is desirable that any system of reasoning, any logic new or old should render the universal explicit.

This example also brings into clear relief the points of agreement and the points of difference between Mr. Alfred Sidgwick and myself. I find myself so thoroughly in accord with the greater part of Mr. Sidgwick's argument that I am unable to understand why he attaches such small importance to what appears to me to be an essential truth. I fully appreciate the clearness with which he has pointed out, not only the necessity of the universal, but the precise manner in which the universal is in practice used. Nevertheless there must be some important difference in point of view between the emphatic assertion of the necessity of the universal in deductive reasoning and the somewhat apologetic inquiry whether there is any objection to its use in a limited manner and for a limited purpose. It seems to me more logical, when once a principle is asserted, to accept it fully and unequivocally. With Mr. Sidgwick's assertion that the universal can always be given on demand and with his analysis of

the conditions when it is desirable to render explicit what is commonly explicit I cordially agree. But I would demur that the fact that in practical life and argument it is seldom desirable to state an argument *in extenso* is no reason why in logic we should depreciate the significance of the essential characteristics of reasoning. In practical life we do not often deal with first principles, but the examination of first principles is essential in logic and in philosophy.

Those who have followed the argument so far will not demur at the conclusion that any deductive argument can be expressed in syllogistic form. We certainly need to assume that essentially the same general truth can be expressed in a variety of verbal forms without serious alteration of the fundamental meaning. Such I take to be a necessary assumption of any system of formal reasoning. I do not, as some do, assert that the syllogism is the only form in which a valid argument can be expressed. In that a syllogism contains both the explicit statement of a general truth in the major premise and of a particular example in the minor premise it comes very near to bedrock. Any attempt therefore to displace this form by others requires very careful examination. At the same time the expression of an argument in a syllogism is a verbal change of every day reasoning into a definite academic form, and the assertion that this is possible and allowable seems to me to imply the corollary that other forms are possible.

It will be convenient now to deal with the contribution of Dr. Schiller.[3] This is all the more necessary in that Mr. Pickard-Cambridge has not found the space to do so. Moreover I think I may claim to understand Dr. Schiller's view better than many who have dealt with him. Let me say at the outset that I am in full agreement with some of his preliminary remarks. That an argument in the form of the *a fortiori* is not valid and that its truth or falsity depends on the particular relation expressed (as I should put it upon the truth or falsity of the implied universal) is one of the points for which I have been contending. Moreover I think with him that the term validity should not be applied to material implications. Without saying or implying that Mr. Pickard-Cambridge's position is *anathema*, I agree that in so far as he speaks of the validity of a material implication he is using language liable to serious misunderstanding. Moreover, not only do I agree that formal reasonings are of the nature of propositional functions, but I have (in my article in the *Quarterly Review*) made a special point of the similarity. What I am unable to see, is that all the remarks prove anything whatever except possibly (which is quite true) that a number of modern logicians are guilty of considerable confusion of thought and are without any adequate or consistent philosophy of the logic they approve and teach.

[3] Mind, No. 100, p. 513.

Dr. Schiller has elsewhere stated that one possible inference from his premises is that logic is (or should be) symbolic. Again I quite agree and have elsewhere[4] definitely asserted that this is so. Nor can I see the objection unless we confuse the symbolic view of logic with the complicated rigmarole at present called symbolic logic. An adequate and simple system of symbolism to replace statements such as the "J. S. S. universal" of which another example appears in this discussion would be distinctly valuable. In its absence we must make the best of the tools we possess.

The first of the implications I am desirous of putting forward is, therefore, the conceptual view of logic and of reason. In reasoning[5] we deduce the implications of one or more premises. Granting the premises as absolutely true, the conclusions are certain and also absolutely true. Conclusion follows premise with a certainty that is absolute and from which there is no appeal. I consider this aspect of thought of the profoundest significance, and one which no system of modern philosophy in vogue at the present time adequately explains. A corner of the subject appears in the *Critique of Pure Reason*. Spencer alone among the moderns has a full realisation of the fact and an attempt at a consistent explanation.

A second implication is that no reasoning, no strictly logical argument is in itself a guarantee of material or empirical truth. This again has been asserted by many logicians and I see no reason why anyone should wish to deny it. It is this point I think that Dr. Schiller was urging in the passage Mr. Pickard-Cambridge failed to understand. Dr. Schiller has used this to depreciate formal logic and to say, mainly on this ground, that it is worthless. I do not propose to discuss here the precise value of formal logic, but I would say that the reason offered is entirely insufficient. As I have shown on several occasions, the objection, if it can be called an objection, is equally valid against mathematics. I would also point out that the schoolman, from the same premise, draws the conclusion that empirical truth is of an order inferior to rational truth and lies on a lower level. Dr. Schiller's striking discovery is the commonplace of scholastic logic. On the surface at any rate the scholastic conclusion is quite as plausible as that of Dr. Schiller. My own view on this matter I cannot adequately state in a brief discussion. But all competent logicians should realise the fact that before formal

[4] "Theory of Material Fallacies." *Proc. Aristotelian Society*, 1912-13.

[5] To save unnecessary verbiage I am not placing the adjective deductive in front of the term reasoning. With many others, I hold that all reasoning properly so called is deductive reasoning, and that induction and similar processes are not strictly speaking reasoning at all. This is, however, largely a matter of definition and I do not wish to discuss the point here. If those who disagree will supply the adjective deductive where required they will find the statement quite clear.

reason can be applied to empirical and every-day problems there is the process of fitting to see whether or no an argument is applicable. The process is very much what the plain man calls common sense.[6]

The opponents of formal logic seem to me to err in thinking that, unless logic can formalise all the processes by which we in practical life arrive at material conclusions, it is worthless. One opponent will make an attempt to carry out such formalisation. Another, seeing quite rightly that such is impossible, will denounce formal logic as a sham. I cannot agree with either view. The conclusions of practical life are commonly arrived at by processes which are not reasoning at all, and often by very bad reasoning. Occasionally they are little the worse, but sometimes they are very wrong and very untrustworthy. It seems to me that it is the business of logic to formalise only a small part of what we will call (for lack of a better name) practical reason. It is erroneous to depreciate the value of what can be formalised. It is equally erroneous to attempt to formalise that part of human faculty which is essentially not formal but empirical and instinctive.

[6] Anyone who has followed this argument will have a very good idea what I meant in a previous discussion by the terms "the sphere of logic and the sphere of life".

H. S. SHELTON.

VII.—CRITICAL NOTICES.

The World as Imagination. Series I. By EDWARD DOUGLAS FAWCETT. London: Macmillan & Co., 1916. Pp. xlii, 623.

THE metaphysician, like the poet, is born, and not made by ruminating the remains of his dead compeers. He is not a *ghoul*, but himself a 'poet' of sorts, which is why he has so often fallen foul of poetry. Only instead of making verses he is a maker of intuitive guesses at the riddle of existence. These he is fond of crusting over, *after* he has made them, with an external skeleton of logical reasons and technical verbiage which is always woefully inadequate to the living thought that has secreted it. His operations are always intensely personal and peculiar to himself; but if his sense of humour is not developed as strongly as his creative imagination, he is apt to claim for his work universal and eternal validity, and to grow angry when neither his critics nor even his followers can understand it. I hasten to add that Mr. Fawcett has not made this mistake. He has pitched his aims high, but his pretensions low, and he keeps his temper and his head admirably throughout, even in traversing the most trying bits of the traditional routes. So he only claims to propound an experimental hypothesis and admits that "the best available hypothesis may leave very much indeed to be desired" (p. 3, cf. Preface, pp. 23, 128, etc.).

But he is a born metaphysician nevertheless. He began young, as such a one should, and grew enthusiastic over the mystical wisdom of the Hindu sages, in whose metaphysics the poetry is purest, most unrestrained, and unabashed. He then published an imaginative forecast of the aerial warfare of the future, called *Hartmann the Anarchist* (not the philosopher), which might now well appeal to readers oppressed by Zeppelin raids. By 1893 he had discovered, in *The Riddle of the Universe*, that 'Germany, not India,' was the hierophant. But not being hidebound in an academic environment, he could move with the times and outgrow the spell of the classical German tradition. *The Individual and Reality* (1909) is a work he would not himself disavow, and of which no philosopher need be ashamed. Indeed Mr. Fawcett's present work is perhaps to be regarded as a re-working of that half of its predecessor which dealt with 'reality,' while an epic on 'the individual' and his future is definitely promised, if he is spared. Clearly a psychologist might find in the series of his

works precious material for studying the development of the metaphysical soul. But since the departure of William James what psychologist have we who is sufficiently interested in the concrete types of souls or capable of so difficult a study? Perhaps Mr. Shand will kindly attend to Mr. Fawcett's idiosyncrasy. If only a British philosopher could be found patient and patriotic enough to compile a history of philosophy, he might be recommended to cast Mr. Fawcett for the part of the British Schelling.

Technically, however, Mr. Fawcett's German prototype is not Schelling so much as a much obscurer personage, one Frohschammer, who has anticipated his principle of an all-creating Cosmic Imagination which is reflected in us, and revealed especially in the creations of the artist. Mr. Fawcett dismisses him rather cavalierly, and has not apparently read him, but relied on the report of a friend. But they have a good deal in common, and why after all should a philosopher exclaim '*pereant nostra qui ante nos dixerunt*'? If he had not been anticipated to some extent, his message would be utterly unintelligible; this is why, when a 'novelty' does pass the censorship of our conservative habits of thought, it is regularly found to have been anticipated a dozen times. Nor need a metaphysic be less meritorious for having had forerunners. We do not think less of a poet because his lyrics have the same subject as his predecessors—why then should a metaphysician's hymn to the Cosmic Principle be despised because other compositions have been dispatched to the same address? Let us admit rather that there were metaphysicians before Thales, just as there were brave men before Agamemnon. So let Mr. Fawcett too have his shot at the 'Aunt Sally' of philosophy, Absolute Reality!

Now assuredly, if guessing is in order, there is much to be said for his adventure. The wildly whirling world that hustles us through a life that is over before we have discerned the good and the evil in the taste of it, has not, candidly, much appearance of being a work of Reason—not at any rate of a reason similar enough to ours to be reasonably called one. Nor again is it easy to believe as final truth the ingenious human fiction which represents all things as nothing in the end but a soulless dance of deathless particles, bound to their unchanging rhythms by eternal 'laws' of 'mechanism' and 'Causation'. The Mechanical Theory is hard to swallow, not because it is materialistic, low and depressing, inhuman and unfeeling, but because it is 'all too human,' and so transparently compact of devices by which our minds hope to facilitate the calculation of events and to smooth the way for the postulates of scientific method. The wish was as flagrantly father to the thought of the mechanical interpretation of the world as of the naivest theology or of the most arrogantly dogmatic metaphysic.

Accordingly Mr. Fawcett was quite entitled to reject both the rationalistic and the mechanistic way of approaching the

cosmic riddle, in order to suggest a third. And is it not plausible and enticing to suggest that the course of cosmic happening is a game played with itself (p. 23) by some vast imagination with an insatiable appetite for adventure, that shapes it when and as it dreams it, ever new and yet ever reminiscent of its past, both conservative and creative, controlled and free, hypothetical and yet verifiable, immanent in experience and yet transcending it, idealistic and yet realistic too, infinite *per se* and yet self-limiting in this 'finite' world, plunging gaily into the time-processes of its 'creative episodes,' and yet, when the fit is over, able to recuperate in the eternal rest of an *ἐνέργεια ἀκινησίας*?

Mr. Fawcett's scheme is not self-contradictory in some essential point, like most metaphysics. If it is a romance, it is at least consistent. And he can claim for his 'principle' two great advantages. In the first place he points out, quite rightly, that all the other metaphysical explanations involve and presuppose his own. The world cannot be interpreted, either as wholly rational or as wholly mechanical, without abundant use of the imagination. Secondly, his Cosmic Imagination, 'the C.I.' as he affectionately calls it, can really afford to be what other metaphysical principles falsely claim to be, *viz.*, all-embracing. It can be represented as including, not only all reality but all 'unreality' as well; for does it not engender all the worlds and all they harbour, by *dreaming* them? Its elasticity and tolerance contrast very favourably with the proud and narrow-minded exclusiveness of the ordinary Absolutes, which always in the end ignore the reals of low degree, though they usually begin with a perfunctory parade of their inflexible resolve to absorb all finite things. But after that they are wont to discover that finite things are not so easily assimilated; they do not really fit into their internal economy, and have to be vomited out again, until, after a prolonged process of the metaphysical expurgation of whatever is not worthy to form part of Absolute Reality, they are left empty husks, void of content, and incapable of explaining anything at all.

To grant him this superiority is not, however, to concede that Mr. Fawcett's solution is manifestly right. His 'C.I.' may still inspire qualms in the critical, and doubts as to how far it can be admitted as a real explanation. In the first place it is not easy to construe, from the indications given, the real nature and composition of the Cosmic Mind which runs riot in the universe. We are no doubt familiar with the existence and operations of imagination in ourselves. But this gives us 'knowledge-of-acquaintance' rather than 'knowledge-about,' and we can hardly claim to understand it.

Moreover, the imagination which we know is always *personal*, and cannot readily be imagined to become anything else. If stones, atoms, and electrons are capable of imagining a vain thing, *we* at any rate cannot make sure of this. Now, 'the C.I.,'

Mr. Fawcett assures us, is *not* personal; it is not a 'God,' but an 'Absolute'. He does not argue the point, perhaps because he thinks that for philosophy to appeal to personality is to explain *ignotum per ignotius*. But if so, should he not consider whether 'imagination' is not in a like case? Like all the rest, Mr. Fawcett's cosmic principle is *ex analogia hominis*, and demands a jumping-off place in human nature and a big jump to reach it. This leap those who look curiously may be indisposed to take.

In other respects also Mr. Fawcett conceives his principle in ways which do not escape familiar difficulties. It is avowedly monistic, and rests on the old argument for monism. It is assumed that the togetherness of things which makes them into a world can only be explained by presupposing a pre-existing substance in which they are all prepared and prefigured. This assumption (which is nowhere cogent) is rendered particularly unconvincing in Mr. Fawcett's case by his laudable modernity in recognising the reality of *novelty*. For, the critic is tempted to ask, if novelties can really happen, why may not one of the novelties be the coming together of a world which was *not* previously contained in any single cosmic principle?

Again, it is assumed that from the *thought* of an underlying unity which holds together a plurality we can, and must, pass to the assertion that the reality we encounter is *in fact* an example of such unity. That is, it is argued that because we have formed a certain idea and find it useful and *partially* applicable to reality, it is bound to apply (*a priori* too!) to the (unknown) whole. Thus is reality 'proved' to be utterly conformable with our idea. Now this is plainly the essential claim of our old friend 'the Ontological Proof,' in a thin disguise. It is one of the commonest of postulates, but questionable and difficult to verify. It is the *a priori* metaphysician's best, and perhaps only, friend; and yet, with singular ingratitude, he always deserts it when it is attacked. Mr. Fawcett too treats it in this way. He clearly relies on the ontological proof (p. 148), and though he admits it to be a 'command-concept' or postulate, assumes its validity (p. 143): yet he too bestows his benediction on Kant's famous assault on it (p. 55). His argument also that the cosmic principle must be of a psychic nature, because '*con*sciousness' is a way of unifying plurality, hardly seems adequate to bear the ponderous structure built upon it.

Further scruples are engendered by a scrutiny of the Cosmic Imagination's character. Mr. Fawcett is quite hopeful about it, and even at times enthusiastic, although, unlike most monists, he does not blink the terrible problem of evil. He has faith that the Divine Imagination will extricate itself from all entanglements and in the end emerge successfully from all its cosmic adventures. But the reasons he gives do not seem either convincing or quite consistent. His belief in the prosperous issue of the world-

process, with peace and reparation for all sufferers, seems to be little more than a *sic volo sic jubeo*, a postulate or 'command-concept,' on his own showing. For his confidence in the goodness of things is greatest where he knows least. Compare his eloquent description of "the normal *joie de vivre*" among electrons (p. 499) with the lurid picture of 'the martyrdom of man' in Part III., chap. ix. Moreover, if the hypothetical psychoses of these inferential sentients are so full of the joys of unimpeded activity, does it not follow that an 'Evolution' which did not stop at the bloodless ballets of electrons but proceeded to the miserable battlings of animals and men has been a deplorable mistake, and that the world has been going to the bad in evolving creatures susceptible to pain and death?

Mr. Fawcett then seems as little able as other metaphysicians to clear his Absolute of the charge of being, humanly speaking, either evil, or insane, or both. But this is no reason for withholding recognition from the gallantry of his attempt, which is made with spirit and *esprit*. He has evidently enjoyed writing it, and if they take it in the proper spirit, his readers will enjoy it too. For it is not 'muddy metaphysics' but a lucid book, full of shrewd criticism and forcible phrasing; moreover, the joke on page 403 is really excellent!

F. C. S. SCHILLER.

Conscience and Christ: Six Lectures on Christian Ethics. By HASTINGS RASHDALL. London: Duckworth & Co., 1916. Pp. xx, 309.

THIS volume contains the Haskell Lectures delivered by Dr. Rashdall at the Theological Seminary of Oberlin College, Ohio, in the autumn of 1913. They are six in all, and they have been supplemented by one or two additional notes and short appendices. The problem which the author seeks to elucidate may be best indicated in his own words: "The Moral Philosopher, if he is not one of those who explain away Morality altogether, usually holds that Morality means the following of conscience. In theological books and sermons it is as commonly assumed that the supreme rule for a Christian should be to follow Christ. The writer believes that there is truth in both principles, but it is obvious that the position involves a problem as to the relation between the two authorities—and a problem not very often explicitly dealt with. That is the problem with which these lectures are mainly occupied."

The task which Canon Rashdall has set himself is one which demands knowledge and breadth of view as well as tact and insight. The philosopher is apt to do scant justice to the religious side of the question, while the theologian too often ignores the philosophical issues at stake. Hence if the subject is to be

treated adequately, it is desirable that this should be done by one who is at home alike in the regions of philosophical and theological thought, and who also possesses a sufficient knowledge of modern criticism. Dr. Rashdall is well qualified in all these respects, and this gives importance and value to the work.

In his opening lecture on "Moral Philosophy and Moral Authority" the author frankly faces the question of the relation between the two authorities represented by Moral Philosophy and Christian Ethics. At the outset the nature and authority of conscience as expressed in our moral judgments falls to be determined. As is well known, Dr. Rashdall rejects the purely emotional theory of moral judgments such as Westermarck propounds. If these judgments claim to be objective, "they must come from the intellectual part of our nature, whether we call it Reason or Moral Reason or anything else—not from Moral Sense or any other emotional capacity". As compared with moralists of the Kantian type he is willing to admit emotion has much to do with the details of our moral judgments, but it does not explain them. Dr. Rashdall's own theory of ethics is 'Ideal Utilitarianism,' and has a good deal in common with a writer like Paulsen. On this view the ethical end is human well-being in the fullest sense. The Good, teleologically conceived, is fundamental, and determines the notions of right and duty. The consequences of an act must count: it is a false abstraction which separates an act from its results, and in so far as the results can be foreseen they enter into the moral quality of the act. On the other hand the ultimate moral judgment which takes the form "this is good" is immediate: it is a judgment of value and relates to ends. The way to the end, the means to be used—this has to be found through experience.

With much in this statement we can cordially agree. Were moral judgment a pure matter of feeling its objectivity could not be maintained. Nevertheless it may be fairly argued that the feeling and volitional elements play a distinctly larger part in the working of the moral consciousness than Dr. Rashdall is disposed to admit. If we are not mistaken, he seems to hold that moral ends are purely rational, while at the same time maintaining that the ultimate moral judgment which refers to the end is an immediate judgment of value. But the fact is it is only because man is a centre of feeling and will that the teleological conception has meaning for him. Hence these elements play a part in determining the good or moral ideal. One would have been glad of an explicit statement from Dr. Rashdall on the relation of value to rationality.

If our moral consciousness thus sets before us the comprehensive Good as our end and ideal, in what respect can Christ help us? The latter part of the chapter deals with this point. The teaching of Jesus has deepened the moral consciousness. He has given living expression to the ideal of conduct, and has made it

operative in the minds of many who could not have conceived it for themselves. And if we are assured of His supreme insight, we shall accord to Him high ethical authority. Now what grounds have we for supposing that Jesus was supremely likely to be right in His ethical judgments? It seems to me the author handles this question very fairly and very frankly. Though we may be convinced, he remarks, that Jesus worked miracles, it by no means follows that all He said was ethically true—a point which apologists sometimes forget. The truth is that the authority we can claim for the teaching of Jesus must in the end depend on the way in which that teaching appeals to the moral consciousness. The latter is the final tribunal; for a submission to the authority of Christ apart from the approval of conscience would not be legitimate, and it was to conscience that He Himself appealed.

The second lecture—"Ethics and Eschatology"—deals with an urgent question which has an important bearing on the moral authority of Christ. According to the 'consistent eschatologists,' of whom Schweitzer may be taken as a type, the moral teaching of Jesus was purely of the nature of an *Interimsethik*: the all important part of His message was the impending catastrophic advent of the Kingdom of God. If this were true, then in the light of history Jesus must have been profoundly mistaken in the essence of His Gospel, and His authority would be shaken. Some of the eschatological sayings of the Gospels lend a certain plausibility to this extreme view, and the whole subject is one which requires careful and judicious handling. In this chapter and within the space at his disposal, Canon Rashdall, if I may judge, succeeds admirably in setting the problem in a right perspective and in leading his readers to sound and reasonable conclusions. He has an adequate knowledge of apocalyptic literature as well as recent criticism of the Gospels, and he shows convincingly that the extreme eschatological theory rests on a distorted view of the evidence. There are elements in the teaching of Jesus which are plainly inconsistent with the theory. Of course Dr. Rashdall frankly accepts the limitation of Christ's knowledge in certain aspects, but he points out that it was the inner character of the Kingdom, and not the precise time of its outward advent, which was important. It is inevitable that in so difficult a matter there will be difference of opinion about the acceptance of some eschatological sayings as genuine and the rejection of others. But the author is fully aware of this; and it seems to me he gives good reasons why the admittedly eschatological element in the teaching of Jesus does not really impair the religious authority and value of His message.

Having dealt with this difficulty the writer goes on to give in his third lecture a sketch of the ethical teaching of Jesus. I shall not attempt to follow his discussion, but one or two points of interest may be noted. The work of Jesus, we are told, consisted

to a great extent in separating what was true and valuable in the traditions of His people from lower elements. In the second place He set aside the merely external idea of goodness, and traced the good to the inner disposition. Finally He taught that man everywhere had an obligation to his fellow man. In the text these points are amplified and enforced. Dr. Rashdall goes on to urge that the moral teaching of Jesus forms a connected whole, while His life is a harmonious illustration of His teaching and a concrete presentation of the ideal. He justly insists that the moral ideal leads up to religion, and religion guarantees the objectivity of moral obligation. This is essentially true of the Christian Ethic. In an additional note there is a useful and interesting exposition of Christ's teaching on some of the ethical virtues.

In the fourth lecture and in an additional note objections to the moral doctrine of Christ are considered at some length. Thus it is contended that Jesus advocated an exaggerated self-sacrifice; that He inculcated a pure doctrine of non-resistance and submission, as Tolstoi, for instance, believed; and that He set forth a kind of communism. In dealing with these objections Dr. Rashdall covers fairly familiar ground, and his reply on the whole is quite successful. To the argument that the Gospel says nothing about the duty of self-development, the answer is an admission that Jesus says nothing about the culture of the æsthetic and intellectual powers. On the other hand he does not oppose it. This admission carries with it the conclusion that the teaching of Christ does require development in order to be accepted as a final and permanent ideal for the modern world. This, we are told, is a perfectly legitimate demand, for the Founder of Christianity never sought to lay down a hard and fast code of ethics. What He did inculcate were certain general ethical principles which are capable of infinite expansion with the expanding life of society. On this principle of development we must insist, if the teaching of Christ is to be a supreme guide for modern life. At the beginning of the fifth lecture on "The Principle of Development" this truth is emphasised, and it is pointed out that two conditions are involved: "firstly, that that teaching is understood as laying down general principles and not detailed regulations of eternal obligation: secondly, that the necessity of development is admitted in the amplest manner".

In this chapter, as well as in the preceding one, Dr. Rashdall will be found combating the notion that Jesus taught asceticism in the stricter sense of the word. He of course easily shows that the ascetic severities of the early and medieval Church cannot fairly be based on the precepts of the Gospels, and the life of the Founder of our religion gave no warrant for them. He argues that, if there is a sense in which the Christian must renounce the "world" as remorselessly as ever, it is also true that "the Christ of whom we hear so much in the 'Imitatio' has not much in

common with the Christ of the Gospels". One or two of the more pronouncedly ascetic sayings attributed to Jesus Dr. Rashdall traces to the consciousness of the later Church. It is possible however to argue, that they found a place in the Gospels because they were felt to correspond to elements in the traditional conception of the character of Christ. Be this as it may, I do not feel sure that the writer does sufficient justice to the negative or world-renouncing element in redemptive religion. The religion of Thomas à Kempis may not be the religion of Christ, but the worldly Christianity of modern times is still less so. As William Law remarked, the world become a friend is more dangerous than when it was an open enemy. But of course the negative movement of the religious spirit is only half the truth, and Dr. Rashdall is perfectly right in emphasising the positive side of the Christian ideal.

If, as I should put it, the Christian breaks with the world, this is the movement by which he gains a fresh depth and inwardness of spiritual life. And he returns to the world that he may overcome the evil in the power of the new spirit.

The concluding lecture gives us a clear and useful view of the relation of Christianity to other Ethical Systems. The reader will find there a very convincing statement of the unique claims and value of the Christian Ethic. Dr. Rashdall has no doubt about the essential and central place of Christ in the system. "A Christianity without Christ—or a Christianity in which Christ is not emphatically placed above other masters—will always be a maimed and not very effective Christianity." There is one statement in the chapter which, I think, may be misleading. On pages 255-256 Dr. Rashdall argues that "Every religion, whatever else it is, always includes a theory of the universe," and "to get the religious experience characteristic of a religion, you must believe in its theory of the universe". If this means no more than that a religion implies a general world-view, it is true. But it is important to remember that this world-view is primarily conceived in terms of value. The phrase 'theory of the universe' suggests an intellectual conception, and in this case the assertion can hardly be made good. The 'theory of the universe' held by a Christian in the first century is not identical with that of a Christian in the twentieth, and yet both may share in the same characteristic spiritual experience.

In conclusion I should like to say that I have read this volume with great interest and profit. The subject is one which required treatment, and a treatment which combined candour with courage. Both these qualities are conspicuously present in the book. No doubt there is a good deal in it which ultra Evangelical and High Church people will not find to their mind. But that larger public which is neither the one nor the other, but is honestly seeking for light on the problems of Christianity, will, I believe, receive great help and encouragement from Dr. Rashdall's Lectures.

G. Galloway.

Herbert Spencer. By HUGH ELLIOT. "Makers of the Nineteenth Century." Constable, 1917. Pp. 329. 6s.

IT is curious to notice the effect which the phenomenon of the present war, waged by the leading intellectual nations against one another, has had on philosophers who have been conspicuous upholders of the rights of human reason and the firmest believers in its power. Mr. Bertrand Russell in his recent book, *The Principles of Social Reconstruction*, has had to fall back on a theory of primitive irrational impulses. And Mr. Elliot in this most interesting and fascinating study of the character of Herbert Spencer and his work finds it necessary to keep reminding us that Spencer failed to recognise an "emotional" human nature, much older and more primitive than "logical" nature, whence spring the hatred and rivalry leading to mutual slaughter and the destruction on a vast scale of accumulated wealth. How short our memories are! How many of us three years ago could have believed, or would have confessed we believed, that primitive instincts and emotions might at any time burst through and overwhelm the life of reason? Even those who, like Mr. McDougall in his *Social Psychology*, represented primitive instincts as the basis of human nature, expressed no warning that instincts might be fraught with danger to the whole intellectual corporate life of humanity. It is not, we may be sure, an individual defect, such as a poverty of his own emotional nature, which, as Mr. Elliot suggests, is needed to account for Herbert Spencer's anti-militaryism and for his firm belief in industrialism and individual freedom as the forces which would exorcise militaryism. We all used to think so. Indeed the reason why we seem to understand Herbert Spencer's attitude to the problem of life and knowledge, *i.e.* his philosophy, so well, and the reason why we feel so profoundly dissatisfied with it, is just the fact that he represents and expresses so clearly the view of nature, life, and history, which seemed to us once to be the pure reflection of an age of scientific discovery and industrial evolution. When we criticise Herbert Spencer it is our own old selves we are criticising.

It was a strange phenomenon. A young man with no special training, no obvious qualification, no knowledge of art and literature, no direct acquaintance with the works of the great philosophers, no devotion to science, no application to any experimental research, conceived the idea of thinking out a complete system of knowledge, and of writing it down for the instruction and permanent benefit of mankind. And he did it. Not only so but the fame of his intention and the interest in his performance spread throughout the whole world. The interest waxed and waned, but through encouragement and discouragement he carried the work to completion in the course of a long life, and according to plan and with practically no variation from the scheme as he originally conceived it.

What is the explanation? Mr. Elliot's answer is "genius". We need not reject it, but it hardly suffices. It is like Spencer's own plan of pulling up short before the unknowable. And indeed there is no need to be satisfied with it, for Mr. Elliot supplies us with the material for a reconstruction.

Spencer had unbounded confidence in logical reasoning or discursive thinking. He conceived that nothing else was needed. If he wanted to explain the customs and beliefs of primitive man, all that it was necessary to do was to think himself into the primitive man's limitations and then he would know how the primitive man thought. He could not imagine that primitive man thought otherwise or differently than he, Herbert Spencer, would think under the conditions. There is nothing very peculiar or original about that method. It vitiates a vast percentage of current psychological and anthropological theory.

Another striking characteristic of Spencer is his contempt for history. He could not conceive that any advantage in framing a new hypothesis or theory could be derived from the knowledge of hypotheses and theories produced under other and different conditions. This evidently led him to regard the study of Plato, Kant, or Hegel, not merely as waste labour or a frivolous dissipation of mental energy, but as a positive handicap. These two traits gave him the strength of self-reliance but they really constitute the weakness of his whole philosophy for us, and are the main reason why his work seems to so many to-day, including Mr. Elliot, devoid of permanent intrinsic value.

It is not a little curious that one who took evolution as the keynote of philosophical interpretation should himself have been so insistent on the detachment of his system from the historical tradition. Mr. Elliot, I think, supplies the clue, or at least indicates the probable outward determining factor of this hostile attitude toward historical philosophy. It is G. H. Lewes' *Biographical History of Philosophy.* This appears to be the source of all Spencer's special knowledge of historical systems. It was published in 1845-46 in four volumes, and its purpose was to explain and popularise the Positive Philosophy of Auguste Comte. We read in the preface to the third edition of that work that "it was addressed to the general public rather than to well-read students, it had no pretensions to the completeness or erudition displayed in many other Histories, being little more than a rapid survey of the course of metaphysical speculation, written with the avowed purpose of dissuading the youth of England from wasting energy on insoluble problems, and relying on a false method. With this object of turning the mind from Metaphysics to Positive Philosophy, it employed History as an instrument of Criticism to disclose the successive failures of successive schools." This seems on its negative side so thoroughly to accord with Spencer's view that it is not improbable that it was this book coupled with his dislike of the pontifical pose of Auguste Comte which gave him the idea of composing the Synthetic Philosophy.

"Spencer," Mr. Elliot tells us, "was not a metaphysician. On the contrary, he refers to metaphysicians with undisguised contempt." In another place he tells us that Spencer had a metaphysical doctrine of his own. It occupied, however, but a small and unimportant part of his philosophy, and is extraneous and unnecessary to the main argument. "The bulk of the Philosophy is devoted to problems of science, not metaphysics." In a sense we may agree, but reading Mr. Elliot's account of the philosophy one wonders whether Mr. Elliot's own view of metaphysics corresponds at all with anything that may have been in Spencer's mind. Spencer no doubt meant by metaphysics what Comte meant, a method of explaining things by hypostatising abstractions, but for Mr. Elliot metaphysics seems to be what we know about the unknowable. So he informs us that the specially metaphysical portion of Spencer's philosophy is Part I. of *First Principles* in the course of which Spencer manages to give us a great deal of information about the unknowable. Mr. Elliot is of course keenly alive to the absurdity, but it serves him as a stick to belabour "metaphysics". No doubt Mr. Elliot thinks he is using the term in the strict Aristotelian meaning, the science of what is beyond physics. But then in that case he must regard the remainder of Spencer's philosophy as within physics. This would hardly be a happy description of it, or one likely to satisfy Mr. Elliot even if the whole of science is included under physics. It is really a false division. There is every bit as much, or as little, metaphysics in Spencer's philosophy of the knowable as there is in his doctrine of the unknowable. The principles of Evolution and of Liberty are metaphysical principles. They may be based on scientific generalisations but they are not science either in matter or in form. The distinction which Mr. Elliot probably has in mind is that between a philosophical method in close dependence on experimental science and a philosophical method of pure ideal construction.

There can be no doubt that one great reason of Spencer's success was the magical effect of the word Evolution. Spencer employed it and formed his concept of it as a philosophical principle before Darwin propounded the theory of the origin of species by natural selection. The fierce controversy which raged round that theory for a generation and ended in its complete acceptance served Spencer well. The theory was itself a powerful confirmation of his philosophical principle. Yet it was not scientific considerations, nor generalisations, nor even speculations like those of Darwin, which led Spencer to his principle. It was something much simpler than problems of species or of heredity. He observed that the individual living thing, plant or animal, begins with a comparatively simple structure and becomes increasingly complex as it grows. He thought that in this observation there was revealed a principle of universal application, a principle which would account, not indeed for the absolute origin, but for

the present condition of the solar system, other solar systems and equally of the mind itself. This thought was expressed in the design with which the cover of his volumes was adorned in which was represented the seed unfolding its root and stem and leaf and flower, and the caterpillar passing through its stages to the perfect imago.

Spencer's really great work, as Mr. Elliot has shown us in his very clear and able account, is *The Principles of Psychology.* What makes this work so astonishing is its absolute originality. We have already observed that Spencer borrowed nothing directly from his predecessors, but in this case there were no predecessors from which he could have borrowed. A certain amount of physiology was available, but for his psychological facts and principles he simply set himself to study his own mental processes.

With regard to the philosophy generally Mr. Elliot finds that it suffers from one serious blemish, due to a scientific error which renders generalisations based thereon valueless. Spencer assumed that the growing differentiation or, to use his own terminology, the increasing heterogeneity from generation to generation was consequent on the inheritance of acquired characters. He assumed this simply because it seemed to him a natural inference from the facts, and because he could not imagine any other explanation of the evolution of special organs and special functions. Mr. Elliot surely overstates the case when he says in a sweeping assertion that science has shown such transmission to be impossible. What is certainly fact is that whether or not there may be cases of the inheritance of an acquired character, and whatever in such cases the conditions controlling transmission may be, the ordinary differences in the individual character of new generations are not the result of such transmission.

In conclusion, we would like to congratulate Mr. Elliot on his delightful manner, perfect lucidity, and sympathetic appreciation, in presenting to us this wonderful portrait of a wonderful man who accomplished a wonderful task.

H. WILDON CARR.

VIII.—NEW BOOKS.

Social Progress and the Darwinian Theory. By GEORGE NASMYTH. G. P. Putnam's Sons, 1916.

PACIFICISM is likely in war time to increase the number both of its friends and of its enemies; but the book before us is more likely to add to the latter than to the former, among those who may have the patience to read it to the end. They are not likely to be many, for there is little in it to encourage persistence. The style is without charm, the reasoning is weak, the tone is self-complacent. The views which it advocates are, if more amiable, certainly no less one-sided (or, as Dr. Nasmyth prefers to say, unilateral) than the 'philosophy of force' against which it is directed. If that philosophy is to find an effective critic, it must be in someone who understands the problem involved better than the author of *Social Progress and the Darwinian Theory*: one who does not assume the only alternative to an unqualified pacificism is a doctrine (which it may well be doubted whether any sane man ever held) that 'force' in the form of war is the sole source of all social progress. Like many pacificists, Dr. Nasmyth is ready to claim the primitive Christians as on his side. It is true that with them the ambition of military glory was replaced by that of martyrdom, and that they thought of themselves as engaged in a warfare not against flesh and blood but against principalities and powers, world-rulers of darkness and spiritual hosts of wickedness. Our author would probably regard these notions of the early Christians as incident to their lack of scientific culture; but they certainly tended to make their pacificism more inspiring than one which apparently regards 'the production of wealth' as the only legitimate object of human activity (see p. 387) and would substitute for the 'principalities and powers' of the Apostle, 'the physical environment'.

The first chapter on 'The Philosophy of Force' begs the question at the outset. It is assumed in it that 'war' is adequately treated as 'the use of force,' so that when Renan or Ruskin speaks of the services rendered by war to the moral development of the race, they are to be regarded as merely glorifying 'force,' whereas of course it was only because they saw something in war beside force that they expressed themselves as they did. The second chapter—on 'The Causes of its Success' (the success that is of the Philosophy of Force)—is very superficial. There is no sign that the writer perceives any difficulty in meeting the arguments of what he calls 'social Darwinism'; it is taken for granted that, except for the victims of an aristocratic prejudice in favour of 'force,' there is no problem at all. 'Social Darwinism' it is said (p. 54) 'ignores the physical universe.' It is with 'the physical' (that is apparently the non-human) 'universe' that man has really to struggle: his struggles with his fellow men are merely 'artificial'. One would suppose that animals were never led by their instinct to fight with others of their own species. There are many passages in the book which

make one wonder if the author has ever seen dogs growling at each other over a bone or heard the antlers of stags clashing in their battles for the mastery of the herd. Though 'tigers do not eat each other' (p. 68), animals of other species do; and on page 80 Dr. Nasmyth is compelled to admit that 'eating one another' which he has treated (on p. 74) as something which men do and the lower animals do not, is in its literal sense quite exceptional among human beings: while, if the phrase be used in a metaphorical sense, the comparison with the lower animals has no relevance.

In chapter iv. ('General Sociological Errors') biological analogies are applied with scarcely any discrimination to the discussion of war. There is no sort of comprehension shown of the idea of nationality. Because nationality is not, as some have asserted, the limit of association among men, it does not follow that it has no real or permanent significance. Indeed on page 204 it seems to be recognised as having some, since unions that run counter to it are reckoned as 'artificial,' including that of Alsace-Lorraine with Germany, which on page 128 had apparently been treated as 'natural'. To regard war as a process of dissociation *only*, as is done in this chapter, is certainly to misread history—the question, by the way, asked on page 101 about England and Scotland, is susceptible of quite a different answer from that which Dr. Nasmyth would give—and it is more than doubtful whether, as we are told, on page 106, 'without war the federation of the entire human race would have been accomplished long ago'. It is at least as probable that, without war, many peoples now in close relations would have remained in their primeval isolation from each other.

'The question' (we read on p. 309) 'is never raised Why are certain types superior? Why is man superior to the amœba? The superiority comes of course' (!) 'from the fact that man is an extremely complex association of millions of cellules, while the amœba is a monocellular being.' A little further on we read 'The elementary truth is hardly recognised that association is only a means serving to increase the vital intensity of the individual'. But, on page 315, we learn that 'every metazoa' (this is not a misprint; we read on page 318 of 'all the metazoas!') 'is an association.' It would seem then that *we* ourselves, the 'individuals' of common speech, exist in order to increase the vital intensity of each cellule among those which compose our bodies. This is indeed individualism run mad: and, despite its consistency, will scarcely be welcomed by many, who while ready to subordinate the interests of the State to those of the 'individual' citizen, would not be prepared to subordinate the interests of such metazoa (or, as Dr. Nasmyth would say, metazoas) as themselves to those of their component cells. Our author may consider them as but timid logicians on that account. But they might plead that he had surrendered ethics altogether to biology.

The ethics of Dr. Nasmyth are in fact an instance of the remoteness of his thought in general from the ideas which have been dominant during the last fifty years, that of evolution among the rest. 'War, slavery, animism' are regarded on page 133 as having always been pure evils 'if for no other reason than that they have represented a loss of time'. Dr. Nasmyth's position is that of a very uncritical utilitarianism. Morality is 'reinforced' by showing it to be, even in the form of altruism, 'identical with enlightened self-interest' (p. 364). 'Conscience is really a lightning calculator of enlightened self-interest' (p. 369). Motive goes for nothing. 'If after no matter how long a circuit an action causes harm to its author, this action is immoral, but solely on account of the

fact that it causes harm to its author' (p. 352). The notion of obligation is altogether absent, and the author's views of authority and of punishment are such as one would under those circumstances expect.

The book is introduced by a preface from the pen of Mr. Norman Angell, of which it is sufficient to say, that it is as dogmatic and self-satisfied in tone as the rest, and in no way superior to it in style, accuracy of reasoning, or elevation of sentiment.

The horrors of the great conflict in which we are now engaged naturally incline men of good will to look with a favourable eye on any serious attempt to show that war need not be regarded as a necessary and permanent feature of human life: but this book is not such a serious attempt, for no effort appears to have been made by its author to discover the strong points of the view which he is combating or to escape from the limits of an abstract and pedantic doctrine wholly inadequate, as Bacon might have said, to the nature of things.

C. C. J. Webb.

Received also :—

M. E. Rocke, *The Coming of the World-Teacher*, London, George Allen & Unwin, 1917, pp. 242.

D'Arcy W. Thompson, *On Growth and Form*, Cambridge, University Press, 1917, pp. xv, 793.

Frederick A. M. Spencer, *Human Ideals*, London, T. Fisher Unwin, 1917, pp. vii, 280.

Cecil Leeson, *The Child and the War*, London, King & Son, 1917, pp. 69.

Charles Werner, *Etudes de Philosophie Morale*, Genève Librarie Kundig, 1917, pp. vii, 249.

Cosmos, *The Basis of Durable Peace*, New York, C. Scribners Sons, 1917, pp. ix, 144.

L. de la Vallée Roussin, *The Way to Nirvāna*, Cambridge, University Press, 1917, pp. x, 172.

Henri Waste, *Philosophy:* An Autobiographical Fragment, London, Longmans, Green & Co, 1917, pp. 274.

R. M. Maciver, *Community*, London, Macmillan & Co., 1917, pp. xv, 437.

Ernest Northcroft Merrington, *The Problem of Personality*, London, Macmillan & Co., 1917, pp. x, 229.

M. Flournoy, *The Philosophy of William James*, Authorised Translation by E. B. Holt and William James, Jun., London, Constable & Co., 1917, pp. vii, 246.

IX.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. XXV., No. 6. **M. R. Cohen.** 'Jus naturale redivivum.' [Examines the historical, psychological, legal and metaphysical arguments against the theory of natural law, and concludes that an adequate science is possible through the co-operation of jurists and philosophers.] **A. H. Jones.** 'The Problem of Objectivity.' [The application of German method (criticism of categories) to British problem (of objectivity) has been made only twice: first and partially by Reid, secondly by the new realists. These thinkers affirm that mind is a relation (negation of ideas) and that reality is the product and function of thought (negation of substance). They may join hands with the teleological idealists.] **E. A. Rayner.** 'The Origin and Development of Persons.' [Critique of Bosanquet and Bergson. The course of evolution is from instinctive reaction to a material environment (fixed ideas) to knowing reaction to a spiritual environment (free ideas).] **L. P. Chambers.** 'The Non-Sensuous Knowledge of Reality: A Study in Neo-Realist Epistemology.' [Critique of Holt and Perry. We must admit a conceptual or non-sensuous knowledge of reality, and regard as the knower not the neural organism but the 'organism-environment complex'.] **C. E. Hooper.** 'The Relation of Personal to Cultural Ideas.' [Men can find the truth only collectively, according as groups of substantially like-minded scientific students are formed, and can make it only collectively, according as fuller agreement is attained by minds consciously directed to the goals of the good, the beautiful and the efficacious.] Discussion. **S. Barnett.** 'In What Sense Two Persons Perceive the Same Thing.' [Critique of Fullerton. General descriptions are not only products of thought but are also conditions of thought.] Notes. **C. A. Bennett.** 'Josiah Royce.'—Vol. XXVI., No. 1. **J. E. Creighton.** 'Prefatory Note.' [The number is to survey the progress of some main departments of philosophy since the foundation of the Review in 1892.] **B. Bosanquet.** 'Realism and Metaphysic.' [The realistic movement which began in Germany and elsewhere about 1892 is related to the speculative philosophy which preceded it in the English-speaking world by its rejection of the epistemological doubt and its stress upon the metaphysical problem; a blending may be hoped for, which shall destroy the equivocation of the name Idealism.] **G. H. Sabine.** 'Philosophical and Scientific Specialisation.' [Up to about 1890 specialisation was rampant and idealism was unable effectively to organise scientific points of view. Intercommunication, now beginning, is shown mainly in the influence of biology on psychology and of psychology on philosophy.] **J. H. Tufts.** 'Ethics in the Last Twenty-Five Years.' [The genetic study of morality has furnished two important working conceptions: those of group life, and of the moral as an intimate inseparable part of the whole process of living. Ethics has also broadened by a return of interest to social, political and economic problems.] **M. F. Washburn.** 'Some Thoughts on the Last Quarter-Century in Psychology.' [Comparative psychology has developed reliable methods;

and there is good promise for vocational psychology, the psychology of advertising, mental tests (methods of correlation). Introspection has held its own (Meumann, Ach, Müller, the factual observations of Freud and Jung); allowing for individual differences, we may even trust it when uncontrolled by experiment.] **W. B. Pillsbury.** 'The New Developments in Psychology in the Past Quarter-Century.' [Reviews the application of psychology to education, medicine, the lower animals, business. Within the science itself there has been no tendency towards a common standpoint, though there is a leaning towards the dynamic explanation of mental activities and accomplishments.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

PSYCHOLOGICAL REVIEW. Vol. xxiii., No. 6. **R. Pintner** and **D. G. Paterson.** 'A Measurement of the Language Ability of Deaf Children.' [Test of 570 deaf pupils by Trabue's language scale, which proved satisfactory. Those who lose their hearing adventitiously before the age of four or five are not superior to the congenitally deaf.] **H. D. Marsh.** 'Individual and Sex Differences brought out by Fasting.' [Two subjects reduced food for a week, fasted for a week, returned to normal conditions during a third week. Sensory functions: sensitivity to pain and perceptivity for dots increases, for touch decreases, in male; conversely in female. Intellectual functions: memory improves in female, deteriorates in male. Feeling: in general a poor index of performance, less so for male than female.] **K. S. Lashley.** 'The Human Salivary Reflex and its Uses in Psychology.' [Summary of work done on the direct and conditioned reflex in man. The latter is important for the analysis of the mechanism of learning, and probably for emotive theory.] **G. van N. Dearborn.** 'Intuition.' [Intuitive capacity (involving inference and comprehension, emotive and instinctive reaction) depends on the dynamic relations symbolised and indexed by kinaesthesia, the dynamic mental warp of our behaviour-fabric.] **J. V. Haberman.** 'The Intelligence Examination and Evaluation: a Study of the Child's Mind, ii.' [Outlines and discusses tests for comprehension.] **B. Ruml.** 'The Measurement of the Efficiency of Mental Tests.'] [Shows how to weigh the relative accuracies of selection of the good or poor members of a group, and to determine the best percentage to be included in these part-groups.] **A. P. Weiss.** 'Pendulum and Interval Timer.'

JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS. xiii., 21. **R. B. Perry.** 'The Truth Problem,' II. [Considers "that sort of truth which is a function of mind and . . . brings us into the province of psychology". This "is the correlative of error". It occurs in hypothesis which implies an intending mind "which assigns a value to a variable, and thus brings together a general function and a particular case of it". It involves also an "attitude of committal or belief," and a factual test which is external to the act of belief".] **A. O. Lovejoy** and **E. G. Spaulding.** 'Topic for Discussion at the 1916 Meeting of the American Philosophical Association.' [Concerning the distinction of 'mental' and 'physical'.] xiii., 22. **J. B. Watson.** 'Behaviour and the Concept of Mental Disease.' [The writer is "convinced of the truth of Freud's work," but thinks it is "a mistake for as useful and fascinating a growth as psycho-pathology to allow itself to become encrusted with the barnacles of an outgrown psychological terminology," and that 'psycho-neuroses' may be adequately regarded as 'habit-twists'.] **H. M. Kallen.** 'Philosophic Formalism and Scientific Imagination.' [A (very destructive) review of E. B. Holt's *Concept of Consciousness.*] xiii., 23. **G. A. de Laguna.** 'Sensation and Perception,' II. [Points

out that 'sensations' have "no direct relationship to behaviour," whereas perception is "the apprehension of an *object*," and therefore "stands in a determinate relation to behaviour," which is "the very essence of objectivity". The psychologist can 'analyse out' his 'sensations' only for this reason, *viz.*, because the sensation-qualities of objects are not practical cues, and "there is no sort of behaviour which is demanded by blue objects, or by objects which feel 'cold' or taste 'sour'." However in perception "the properties of the complex are not conceivable as resultants or products of the joint activity of the constituent sensations," and "no scientific doctrine was more futile or barren of results than this doctrine that the percept is a complex of sensations". The truth is that 'sensation' is "nothing more nor less than an hypostatized quality," and that "the same objective stimuli are being responded to differently" when we perceive or analyse out sensations. Moreover all responses are never to a single stimulus but always to a situation. These results have an important bearing on the notions of psychological 'analysis' and introspection, and on the problem of meaning.] **P. Hughes.** 'The Two Poles of the Philosophical Sphere.' [The two centres of interest are the eudaimonistic and the dialectical, the latter of which is admitted to be "selfless and disinterested," but should be required to substantiate its claim to superiority.] **M. R. Cohen.** 'The Use of the Words Real and Unreal.' [A critique of W. H. Sheldon and R. B. Owen (*cf.* xiii., 12), which points out that 'the question is primarily practical, *i.e.*, one of linguistic policy.'] xiii., 24. **H. C. Brown.** 'Language and the Associative Reflex.' [Argues that the history of language indicates that "knowledge would be nothing but a preparation of reflex connexions between this class of objective responses such that, given a certain situation, the right reflexes would take place to precipitate suitable action as their final outcome when the 'train of thought' preceding the action had been brought to an end".] **E. B. Titchener.** 'A further Word on Black.' [Reply to Prof. J. Ward.] **N. Wiener.** 'Mr. Lewis and Implication.' [Defends Russell's symbolic logic against Lewis' criticisms, but admits that "it is unable to distinguish between the notion of truth, pure and simple, and the notion of that truth which results as a consequence of the laws of Logic alone," *i.e.*, that it is purely formal.] Report on the New York Branch of the American Psychological Association, by A. T. Poffenberger. xiii., 25. **W. M. Urban.** 'Knowledge of Value and the Value Judgment.' [Continues paper in xiii., 17. Value being "a wholly unique and irreducible form of Objectivity" involves the two formal *a priori* value propositions (1) that "to every object positive or negative value must be predicated"; (2) that "every value stands in a system of higher and lower," so that "an isolated value is a contradiction in terms". It is admitted that the belief that value does not "come and go with subject that feels it" is hard to reconcile "with the equally certain proposition that value is always *for* a subject," and argued that a value-judgment is certainly not a truth-judgment. The converse view is left over for a subsequent article.] **J. B. Pratt.** 'The Confessions of an Old Realist.' [Maintains that "the antithesis between the mental and the physical is the most absolute antithesis within the realm of being," and defends the correspondence theory of truth, taking the image as the means of perceiving the object.] xiii., 26 is devoted to the work of **Charles Sanders Peirce. J. Royce** and **F. Kernan** regard as his leading ideas, the evolution of the laws of nature, his insurance theory of induction, the objectivity of chance, and his account of intuition. **J. Dewey.** 'The Pragmatism of Peirce.' [Distinguishes it from that of James. It is a doctrine about the meaning of objects, and so quite literally 'pragmatism'. It is less nominalistic than James, and lays

more emphasis on method. But "both Peirce and James are realists". It is finally suggested that "a large part of our epistemological difficulties arise from an attempt to define the 'real' as something given prior to reflective inquiry instead of as that which reflective inquiry is forced to reach."] **C. Ladd-Franklin.** 'Charles S. Peirce at the Johns Hopkins.' [Reminiscences of 1880-1881, and letters.] **J. Jastrow.** 'Charles S. Peirce as a Teacher.' [Reminiscences of 1882-1883.] **M. R. Cohen.** 'Charles S. Peirce and a Tentative Bibliography of his Published Writings.' [Also traces to Peirce's practical experience of the variations of measurements his scepticism about the exactness and constancy of the laws of nature.] xiv., 1. **W. Fite.** 'Moral Valuations and Economic Laws.' ["The economic world is the world of distant acquaintance" in which the parties have not enough knowledge of each other's personality to introduce moral considerations into their dealings. Hence "economic laws are statements, not of what men plan, nor even of what they desire, to do, but of what actually happens as the result of their actions". But "the economic relation is being constantly transformed in the direction of moral obligation by the simple fact of consciousness of the relation. Here, too, "when we discover a law of human nature, we are, by the very fact of discovery, placed in a position to say whether the law is to continue to prevail—the dominion of the law is dissolved by the consciousness of the law". This is strikingly illustrated by the discovery of the Malthusian law of population which "began to lose its force as soon as it was formulated and precisely as the result of being formulated."] **F. H. Giddings.** 'The Method of Absolute Posit.' [Criticises C. J. Keyser's *The Human Worth of Rigorous Thinking.* "It is a creation not of Reason (the relation maker), but of that Pure Spirit which is the Will to Create, emancipated at last from conceptual necessity as from bondage to sense."] xiv., 2. **C. W. Cobb.** 'Relativity.' [An amusing paper which points out that of the two important questions about relativity—(1) 'do the laws of relativity hold true in the physical world?' and (2) what, mathematically, are they? the second has priority. Mathematics is defined as "the science of arranging statements in consistent systems," and should state its assumptions clearly. "But the mathematician is not a fatalist, and his procedure has the element of safety that if he does not like the conclusions, he is at liberty to change the assumptions." It is then shown that relativity rests on the assumption that "the observed velocity of light is always constant, independent of the motion of the observer and the source of light". This is of course arbitrary, but it entails a change in the meaning of 'miles' and 'second' in the formula for the velocity of light, which "do not have their old meaning if one is in motion, but return to it if one returns to rest".] **E. S. Abbott.** 'The Dynamic Value of Content.' [Holds that in the relation of body and mind there is a triple series to be considered, *viz.*, neural process, psychic process, and psychic content, the last though inseparable from the second, being perfectly distinguishable, because the same process of cutaneous stimulation may have successively the different contents 'warm,' 'hot,' 'pain,' while the process can be retarded or accelerated without change of contents.] Report on the 25th Annual Meeting of the American Psychological Association.

ARCHIVES DE PSYCHOLOGIE. Tome xvi., No. 1. **C. Cailler.** 'L'influence du facteur a priori dans l'évaluation de la probabilité des causes.' [To ascertain *a posteriori* the probabilities of the various causes that may have contributed to a given effect, we must know all the possible causes, their relative frequency of action regardless of effect, and the relative facility with which they produce the effect in question.] **M. Evard.**

'Le test d'association-couple à l'école primaire.' [A retesting of boys of nine after a year's interval shows intellectual retardation due partly to physical growth, partly to the war and the economic crisis.] **A. Descœudres.** 'Couleur, position ou nombre? Suite des Recherches expérimentales sur le choix suivant l'âge, le sexe et l'intelligence.' [Experiments on children and adults, of both sexes, normal and abnormal. In the gross, colour falls with age; position rises slowly and evenly, with a drop at adolescence; number keeps the same course throughout, with a rise at adolescence.] **E. Claparède.** 'Profils psychologiques gradués d'après l'ordination des sujets, avec quelques mots sur l'utilité des profils en psychologie légale.' [Combines Galton's principle of the ogive with Rossolimo's of the psychological profile.] Recueil de faits: documents et discussions. **C. Werner.** 'XIe Réunion des philosophes de la suisse romande, Rolle, 22 juin 1916.' **J. L. des Bancels.** 'La theorie du jeu: un précurseur de K. Groos.' [Magendie anticipated Groos' theory.] **A. Lemaitre.** 'Symbolisme hallucinatoire et incomplétude.' [A boy of fifteen has fragmentary hallucinations, in accordance with the mental incompleteness of his home life.] **A. Descœudres.** 'Constance des résultats psychologiques dans les expériences de témoignage.' [Agreement with Stern.] Bibliographie.

"Scientia" (Rivista di Scienza). Series ii. Vol. xx. October, 1916. **J. W. Gregory.** 'Fiords and Earth Movements.' [On the theories of the glacial or other origins of fiords.] **R. Anthony.** 'Le mécanisme de l'évolution humaine.' [Sketch of the mechanism by which the human type has been built up at the expense of an ancestral arboreal type.] **E. Rignano.** 'Il ragionamento "intenzionale". Parte IIa: Il ragionamento metafisico.' [Metaphysical reasoning is, like dialectic (considered by Rignano in the preceding number of *Scientia*), what the author calls 'intentional' (*i.e.*, works for a desired end), but, whereas dialectic considers only particular phenomena, metaphysical reasoning takes into account the whole universe or large portions of it which, directly or indirectly, may have relations with the destinies or the highest ends of the human race. Theological metaphysics (the fundamental error of Cosmo Guastella's great *Filosofia della Metafisica* of 1905 is to have given a too great importance to the purely intellectual factors, while by far the greatest part is played by the affective factors); Metaphysics proper; Finalism, animism, and vitalism; The function of language in metaphysical reasoning; Conclusion, positivism and metaphysics.] **Sir T. Barclay.** 'The Hague Court of Arbitration.' [Since 'to sneer at . . . international law generally because the most terrible war the world has ever seen has broken out in spite of it is just about as reasonable as to sneer at . . . the science of building generally because an earthquake has destroyed some of man's finest work,' the author proposes 'to assert the unqualified conservation and operativeness of International Law, of Arbitration as established by the Hague conventions and by treaties between and with our allies and with neutrals, and of the Hague Court, just as they stood before the war, in spite of violations on all hands by belligerents of almost every rule which had been laid down by Statesmen and Jurists for the humanising, so far as it can be made humane, of so insensate a survival of barbarism as war.' The point of the article seems to be expressed by the author's words: 'In none of the wars which have been waged since the Hague Court was instituted, has there been any possibility of recourse to it. It is and remains a Court for the determination of cases in which there are disputed questions of right and damages, questions in which rules of law and justice are applicable, and in which the parties seek, in good faith, an

honest solution. And in spite of all the wars which have disgraced the present generation of mankind, its power, utility, and authority, as at present constituted, stand undiminished.' Finally, the author expresses some pious hopes of the evolution, 'out of the Hague Court and its further developments, of some super-judicial institution,' and so on. 'Yet we must not let ourselves be deluded by any extravagant hopes.' Possibly the reviewer may be allowed to remark that the science of building seems to have a much closer connexion with earthquakes than the author thinks the Hague Court has with war: it would seem to be more to the point to say that to sneer at the Hague Court would be just about as sensible as to sneer at a well-conducted and useful cookery class for not departing from its proper sphere so far as to prevent earthquakes happening. It is surely part of the business of the science of building to take possible earthquakes into account, at least in those countries in which they are likely to happen; although the science of building is not meant to prevent earthquakes. But for our purposes of illustration it should be noticed that cookery classes are meant neither to prevent earthquakes nor to preserve our property and lives from destruction by them; just as the Hague Court presumably is not meant either to prevent such wars as this nor to prevent destruction by war.] **A. Galante.** 'La Chiesa e le Chiese nella guerra attuale.' [The present war is not only a conflict of arms, but also a conflict of minds and of consciences. The religious consciences of belligerents have not been able to stand firm against political and national currents; the Churches of the various belligerent States all accept the war. For the Pope the situation is much more difficult and delicate than it has ever been before, and the Universal Catholic Church must meditate about its spiritual reconstitution after the war. This will be a very great problem.] Book Reviews. [Among other almost equally interesting ones we may point out those of Pierre Duhem's *La chimie est-elle une science française?* Paris, 1916 (which is not a controversy about French and German contributions to the actual state of chemistry, but is concerned with strictly historical and objective questions); T. E. Lones's *Aristotle's Researches in Natural Science*, London, 1913 (Aristotle was far greater as a biologist than as a physicist; 'all his philosophy is of a biological nature, and that is what constitutes its greatest strength'); G. Jouveau Dubreuil's *Archéologie du Sud de l'Inde*, Paris, 1914; J. Baillet's *Introduction a l'étude des idées morales dans l'Égypte antique*, Paris, 1914; J. Baillet's *La régime pharaonique dans ses rapports avec l'évolution de la morale en Égypte*, Paris, 1913; U. von Wilamowitz-Moellendorff's *Reden und Vorträge*, Berlin, 1913 (on the history of Greek religion); and S. Moliner's *Les Maisons sacrées de Délos au temps de l'indépendance de l'île*, Paris, 1914.] Review of Reviews. Chronicle. French translations of articles in English and Italian. Series ii. Vol. xx., November, 1916. **E. Bouty.** 'Le rayonnement noir et les quanta. Ière Partie: Le rayonnement noir.' [A sequel to the same author's studies (*Scientia*, March and April, 1916) on the kinetic theory of gases. Attempts to show what was the origin of the theory of quanta, the advances that physics has made owing to it, and the great difficulties that it leaves unsolved. A second part will give an account of the attempts, by means of the hypothesis of quanta, to put theory into agreement with experience.] **E. S. Russell.** 'The Influence of the Theory of Evolution on Morphology.' ['The history of animal morphology may perhaps best be treated as being essentially the history of the reaction and antagonism of two frames of mind, two attitudes to the problems of form, which may be distinguished as the synthetic or functional and the abstract or formal.' The evolutionary morphology of the second half of the nineteenth century partook much

more of the formal period of the great outburst of transcendentalism at the beginning of that century than of the predominantly functional period of the pioneer work of Aristotle and the great Italian and French anatomists of the sixteenth to the eighteenth centuries. 'The transformation of morphology from a comparative to a causal science did not take place . . . until the end of the century, when some progress was made towards an understanding of the relation between individual development and ancestral history, particularly by Roux and Samuel Butler, working with the fruitful Lamarckian conception of the transforming power of function.'] **A. Anile.** 'Il cervello dell'uomo preistorico.' ['The evolutionary process of our ideal activity enters into the rhythm of a differentiation, of a functional specification acting on pre-formed tissue, as is the case with all other evolutionary processes of the organic world.'] **E. Rota.** 'Che cosa deve l'Europa alle piccole nazioni.' [Sketch of the part played by the small nations in ancient times, in the Middle Ages, and in modern times.] **H. Goudy.** 'The War and International Law.' ['The rules fixing the inviolability of neutral territory, the treatment of non-combatants in conquered territory, the treatment of prisoners of war, the immunity of non-fortified or undefended towns from bombardment, the immunity of churches and hospitals from bombardment even in defended places, the obligation of visit and search of neutral vessels before seizure or destruction, the observance of the distinction between contraband and non-contraband goods as regards maritime capture, the conditions of effectivity of blockade, have all been to a greater or less extent disregarded by the several belligerents.' Endeavour to prove thoroughly that the two grounds on which belligerents have generally sought to defend or excuse their violations of International Law are *military necessity* and *reprisals*. 'A meaning has been given to these two familiar terms by the belligerents which, if admitted, would involve the total collapse of International Law as removing the very foundations on which it is built.' The author thinks that 'it is not permissible to doubt that' International Law will survive the war, but that 'if it is to have any real authority and secure observance of its mandates it must obtain some sort of sanction. How is this to be obtained? It can of course be so only by general agreement among nations . . .' And so on. Quite good, especially the last part.] Book Reviews. Review of Reviews. Chronicle. French translations of articles in English and Italian. Vol. xx., December, 1916. **A. Favaro.** 'Se e quale influenza abbia Leonardo da Vinci esercitata su Galileo e sulla scuola galileiana.' [Criticism of Pierre Duhem's thesis that the new ideas which Leonardo spread about so widely by his notes were not unknown to his successors: stolen by many authors, these ideas inspired the writings of the thieves on statics and dynamics during the whole of the sixteenth century and thus influenced the seventeenth. Favaro gives reasons for not believing either in a regular diffusion of Leonardo's manuscripts or in the existence of a 'Vincian Academy'; but does not wish absolutely to exclude the possibility that certain learned men of the sixteenth century might have seen some of Leonardo's manuscripts when they were dispersed long after their author's death, and might have published some of Leonardo's discoveries as their own. In this article the author gives a detailed examination of possible influence in the cases of Galileo and his School, and Benedetto Castelli in particular, and proves that they were not open to the charge of plagiarism. The author adds that the publication of the *Opere* of Galileo in the National Edition (edited by Favaro himself), that was accompanied by all Galileo's fragments, which often clearly show the evolution of Galileo's thought, furnishes an indirect proof of the originality of his work. A very learned and convincing article.] **E. Bouty.** 'La

rayonnement noir et les quanta. Deuxième partie: les quanta.' [The theory of quanta is an attempt to get out of the difficulty, with the least possible damage, into which we have been led by an apparently rigorous application of a collection of mechanical or physical principles universally admitted hitherto. Mathematically speaking, the only essential change introduced by Planck into the analysis of his precursors was to substitute, for an integral which becomes infinite, a discontinuous sum of elements grouped in such a way that it remains finite. When this substitution is made, nothing more is changed, and the principles of mechanics and physics are applied. '. . . Theories pass but facts remain. The facts that a theory has once connected are connected for ever, and this connexion serves to test the new and more perfect theory which the progress of the sciences substitutes for the superannuated ones that have become too narrow.'] **W. Bechterew.** 'La localisation des psycho-réflexes dans l'écorce cérébrale.' [In the author's *La psychologie objective* (Paris, 1913), he concluded that the psychical or rather neuro-psychical activity of men and animals is nothing else than the aggregate of associated reflexes which are established in them by education and experience, and, according to circumstances, are found in the state of inhibition or reviviscence. The impulses which give rise to the reproduction of these reflexes are associated in the cerebral cortex. The author then passes to the problem of the localisation of these associated reflexes in the brain. For the primitive division of the cortex into sensitive, motor, and psychical centres, the author substitutes another: into sensori-motor regions possessing also psychical functions. Each of these regions serves for the establishment of associated reflexes in connexion with the others, and principally with the region of the musculo-cutaneous sense by which are established the more distant reflexes such as those of locomotion and those which answer to the general needs of the organism.] **Sir A. Hopkinson.** 'The Sanction in International Law.' ['The idea of framing a complete International Code, attempting in minute detail, by elaborate provisions, to regulate the rights of nations in peace and in war, has utterly broken down. . . . To be of any value International Law must be capable of development and adaptation to new conditions. . . . The deeper question is whether serious disputes between nations are to be settled regularly by law, and by some tribunal, or by resort to arms, and whether any power will ever exist which will prevent a great military nation not only setting itself deliberately above all conventions, all rules of received International Law, but also flagrantly outraging every sentiment of humanity, denying by its acts the very idea of Justice. . . Without going to war the neutral nations by joint action might have used a sanction to enforce some regard for neutral rights, imposed a penalty on their flagrant violation, which might prevent future outrages. While a single German soldier remains in Belgium with the acquiescence of neutral Powers it is useless to talk of the reign of International Law.'] **A. Pillet.** 'Le problème de la guerre.' [The problem referred to only dates from the present war: it is the problem of military service. 'The idea of equal obligation on all citizens for military service is a good example of the harmful influence which the strict application of a principle just in itself may exercise. . . . The Europe of to-day well knows that it is by force alone that nations will obtain respect for their existence and for the limited independence which they enjoy. Once again the German lesson will have taught this truth to Europe. It will not lay down its arms until the ruin of the German Empire is brought about: this ruin is the only rational solution of the problem to which German ambition has given rise.'] Critical note. **F. Van Langenhove.** 'Les théories et l'œuvre sociologique d'Émile Waxweiler.' [Two essen-

tial features characterise Waxweiler's (1867-1916) sociology: its realist inspiration and its synthetic bearing.] Book Reviews. [Amongst others it is interesting to notice that a French translation (Paris, 1910) has been published of Leonardo da Vinci's *Traité du paysage*, and that L. Beltrami has written (Milano, 1916) a book *Leonardo da Vinci e Cesare Borgia*. There are also reviews of L. Hubert's *L'effort brisé* (Paris, 1915), H. Hauser's *Les méthodes allemandes d'expansion économique* (Paris, 1915), and F. Y. Edgeworth's *On the Relations of Political Economy to War* (Oxford, 1915).] Review of Reviews. French translations of articles in Italian and English. Index to vol. xx. Vol. xxi., January, 1917. **Ph. E. B. Jourdain.** 'The Function of Symbolism in Mathematical Logic.' [First refers to articles by Rignano and Peano in *Scientia* for January, February, March, and September, 1915. 'The proper reply to Rignano seems to be that, until comparatively lately, symbolism in mathematics and the algebra of logic had the sole aim of helping reasoning by giving a fairly thorough analysis of reasoning and a condensed form to the analysed reasoning, which should, by suggesting to us analogies in familiar branches of algebra, make mechanical the process of following the thread of deduction; but that, on the other hand, a great part of what modern mathematical logic does is to increase our subtlety by emphasising *differences* in concepts and reasonings instead of *analogies*.' The ideas of Leibniz on the nature of symbolism, the early symbolic logicians, the work of Peano, Frege, Russell, and Whitehead is shortly described in the articles; but the part of most philosophical interest is in the first section. It is a confusion of thought that has led many to believe that mathematical logic seeks to displace the free spirit of discovery or invention in mathematics. Mathematics uses a form of 'economy of thought': 'In our efforts to extend the dominion of science we find it necessary to arrange so that those trains of reasoning which have been already performed and which require no special talent to repeat, but merely memory, should be reproducible without any mental effort, so that we may reserve all our mental energy to subjugate the many new and difficult problems we meet. It must be remembered that the intellectual intuition which perceives the truth of logical laws in their simple but absolutely universal form is unable, owing to our limitations in memory and visualising power, to perceive the same truths in more complicated forms.' This 'economy of thought' is a maxim for the process of discovery, and has no logical connexion with what is discovered. 'What we discover is truth: how we discover it is a matter of psychology. . . . The conceptions of logicians or mathematicians are tools which are useful for approximate descriptions of the changeless world of truth, but they are formed by us. *Concepts*, on the other hand, are, in my use of the term, the entities of which *conceptions* are the—often blurred—images in our minds. Thus the words "definite integral of a function" denote a concept of which the conceptions of Leibniz, Bernoulli, Euler, Cauchy, Riemann, Darboux, Jordan, and Lebesgue were mental images that got nearer and nearer the reality. Concepts are the combinations which are the subjects of definitions in mathematical logic. Definitions are theoretically superfluous, and the only trace left in them of the importance of the corresponding conceptions is that, when we have discovered—and we have logical criteria for telling us when we have done this—and expressed a concept, we can express more shortly' certain truths. Again, 'it is as important to distinguish between *conception* and *concept* as it is to distinguish between *sensation* and *sense-datum*.' It seems to the reviewer that the illustration of the distinction between concepts and conceptions is not quite happy: Riemann's definite integral is a logical definition of a concept, Lebesgue's integral is not more logically precise

but simply more general. A better illustration would be that of the different meanings which 'continuity' has had. There is a criticism of what might seem to be Russell and Whitehead's idea that 'importance' is a logical notion, and of Frege's and these writers' introduction of the psychological principle of 'assertion'. 'Since probably every inventory of the logical world that we shall ever make will be infected by psychology, the history of science is not superfluous even to the logicians.'] **H. von Zeipel.** 'Étoiles et molécules.' [Invisible molecules and the suns of the heavens both obey the same laws of dynamics and probability. Stars are the molecules of the universe. Exposition of some of the most remarkable analogies between the phenomena in these two domains. A long and interesting article, with some striking stellar photographs.] **B. Pirotta.** 'L'origine di nuove specie secondo la teoria dell' incrocio.' [Exposition of I. P. Lotsy's (critic of H. de Vries) theory of crossing to explain the origin of new species; there is no critical examination of the theory.] **Ch. Gide.** 'La Quadruple Entente économique.' [A very thorough examination of the programme of the quadruple economic Entente. It is interesting to notice that, quite by the way, it is mentioned that the article was written as far back as July 29, 1915.[**J. E. G. de Montmorency.** 'International Law after the War.' ['The influence of German materialism had shown itself in many directions in the decade preceding the war, but in no direction was this subtle and malign influence more dangerously manifested than in the region of law.' Examination of the German position with regard to law. Theory and principles of International Law, and application to the position after the war. 'When the peoples of the world realise the fundamental necessity of a Union which will not only preserve peace, but will facilitate trade, enlarge the confines of science, art, and religion, and stamp a new morality on the individual as well as on the nations, then the Entente will be followed by formal Union.'] Book Reviews. [The books on economics that are reviewed are R. Auspitz and R. Lieben's *Recherches sur la théorie du prix* (Paris, 1914, French translation), F. Oppenheimer's *L'économie pure et l'économie politique* (Paris, 1914, French translation), J. Singer's *Der Land der Monopole : Amerika oder Deutschland ?* (Berlin, 1913), and R. Giffen's *Statistics* (London, 1913).] Review of Reviews. Chronicle. French translations of articles in English and Italian. It will be seen that *Scientia* continues its interesting and important programme of scientific synthesis. Vol. xxi., March, 1917. **G. Milhaud.** 'Descartes et Bacon.' [In spite of the essential opposition between these two thinkers which we are now inclined at once to put into words, Descartes does not seem to have been conscious of any opposition. We have, then, to explain the fact that the polemic of Bacon against any method *a priori* did not rouse Descartes. Indeed it seems either that Descartes had with Bacon more in common than we believe, or that he did not feel how far he was from him. There was, in fact, a great deal in common between the *intentions* of the two which might possibly have brought Descartes closer to Bacon; and, further, the rules for reaching the truth given by Descartes do not really differ as much as one is inclined to believe at first from the rules of Bacon. And all this is quite apart from such common points as the exclusion from physics of final causes and a fundamental mechanistic theory. However, it is true that Descartes gave the most important part in knowledge to the 'pure intuition' which directly seizes the truth, while Bacon certainly condemned all 'anticipations of the mind' throughout his writings. If Bacon had lived longer, he would doubtless have put forth all his energies to combat the intuitive method of Descartes.] **M. Cantone.** 'Sull, odierno indirizso degli studi fisici.' [A very interesting and broad survey of the

present tendency of physics. 'These studies were suggested by a reasonable scepticism as to the conservation of the matter of which a body is made up, and still more as to the invariability of its volume. We cannot deny, in fact, that chemical processes or mechanical actions or even a very feeble evaporation may alter the constitution of a body; but further, it is to be feared still more that gradual variations in the volume of a solid take place owing to a secular thermo-elastic change.'] **É. Rabaud.** 'La vie et la mort des espèces. Première Partie: La théorie classique des moyens de défense.' [The classical theory of 'means of defence' is anthropomorphic: life, it holds, is an incessant conflict of beings with each other and against their environments, and, since the various species to which the beings belong do not disappear, the individuals must possess efficacious means of defence. In another article the author will examine why it is that the enormous destructions of individuals do not have as a result a destruction of species.] **E. R. A. Seligman.** 'The Economic Prospects of the United States after the War.' ['The economic conditions of the United States after the war will differ in important respects from what existed previously; and these changed conditions, which will force the United States out of its shell of isolation, are pregnant of large political possibilities to not a few of the European nations.'] **V. Carpi.** 'La durata della guerra.' ['It is not the old principles that have been overtaken, but the fact is that the applications of these principles is being made in a larger and more complex medium, and thus more time is necessary. The war of the present time does not consist merely in the meeting in battle of soldiers and cannons, but it is the highest and most genuine expression of all civil forces.'] Book Reviews. [The reviews of books on questions on economics are of E. Salvi's *Storia del diritto di proprietà* (Milano, 1915); A. Segre's *Manuale di Storia del commercio* (Torino, 1915); E. Ciccotti's *Vecchi e nuovi orizzonti della Numismatica e funzione della moneta nel mondo antico* (Milano, 1915).] Review of Reviews. [This month all the articles reviewed deal with economic and political questions concerned with the war.] Chronicle. French translations of articles in Italian and English.

ZEITSCHRIFT F. PSYCHOLOGIE. Bd. lxxvi. Heft 1 u. 2. **H. Henning.** 'Der Geruch, IV.' [Smell is determined by the way in which the osmophores are grouped about the osmogenic radical or nucleus; the six psychological classes correspond, in fact, with six typical configurations of the molecule, and transitional odours with mixed configurations. The author further discusses the *minimum perceptibile*, the measurement of olfactory sensation (methods and instruments), the process of excitation by way of the olfactory mueosa, the smell of aquatic animals, the alleged degeneration of the sense in man, the aesthetics of smell, etc. A monograph is promised for the near future.] Literaturbericht. Bd. lxxvi. Heft 3 u. 4. **J. B. Rieffert.** 'Grundlegung einer psychogenetischen Theorie der Raumwahrnehmung.' [A logically derived and logically constructed theory. The writer begins with topogenic sensory elements which, under the mechanism of recognition, become individual (not yet logical) signs. The continuity of space perception, and the relations of quantity and similarity exhibited by special perceptions, are referred to processes of apperceptive and associative fusion and of attentional and partitive dissociation, themselves touched off by the spatial distribution of stimuli.] **G. Heymans.** 'In Sachen des psychischen Monismus. IV. Dualistischer und monistischer Psychismus.' [Becher's objections to a physiological theory of memory hold against a materialistic parallelism, but not against a psychical parallelism which makes psychical reality richer than its physiological reflection. Such a view does not imperil

the uniformity of nature, while it leads us positively to a psychological interpretation of the phenomena of loss of memory (old age, trauma).] **A. Pick.** 'Historische Notiz zur Empfindungslehre nebst Bemerkungen bezüglich ihrer Verwertung.' [An appreciation of Hughlings Jackson, who anticipated Poppelreuter's view of the isolated sensation, and the biological theory of perception represented by Wertheimer and Koffka. An illustration from pathology is afforded by the 'phantom' persistence of an amputated limb; Head's schema is an application of Jackson's principles.] Literaturbericht.

X.—NOTES AND NEWS.

MIND ASSOCIATION.

Rev. E. G. Braham, 100 Church Road, Horfield, Bristol, has joined the Association.

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